THE NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. **Boston, August, 1867.** VOL. I.---NO. 8.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. **MONTHLY.** SIMON BROWN, S. FLETCHER, } EDITORS.

FARM WORK FOR AUGUST.

"Nay, tell me not of lordly halls!
My minstrels are the trees,
The moss and the rock are my tapestried walls,
Earth's sounds my symphonies."

N ENGLAND, where the small grains, such as rye, barley, oats, but principally *wheat*, are the staple crops, AUGUST is the great Harvest month of the year. Our great harvests commence in *June*, when we begin to secure the hay crop, which is even then lying down on rich grounds. The gathering of this important crop continues through *July*, *August* and even into September, in some parts of New England, where some of the late meadows are left uncut up to this late season. We have seen good fodder taken from them during the first week of the latter month.

AUGUST is the time when most of our cereals are harvested—the rye, barley, oats and wheat. In securing the grains, the practice used to be to let the straw stand until the berry became ripe, hard, and changed from its milky appearance to a dark brown color. In this condition some portion of the grain—too much to be lost—would be shaken out every time the straw was handled, in cutting it, gathering, tying up, loading and unloading,—and what renders such an operation more objectionable, is the fact, that when the grain is left to harden on the stalk, it is not so good as when cut from *seven* to *fourteen* days before it is thoroughly ripened. It is lighter, per bushel, is not so nutritious, and if ground, the flour is not so "handsome" and will not make so good bread, as flour will from grain cut earlier. This fact has been well settled by most careful experiments.

But our prime and splendid harvest is that of *Indian corn*, which is begun in September, and frequently does not end until some time in November. When allowed to stand so late, the grain receives no injury unless the stalks are broken down and the grain lies upon the ground, but the fodder is considerably reduced in value. This crop is not only exceedingly valuable in itself, but is valuable in the preparation of sod lands to receive the smaller grains,—for it flourishes best on new, or sward lands. Plowing and hoeing the crop three or four times during the summer, pulverizes, enriches, and admirably prepares it for wheat or any of the smaller grains the following season.

The meal from Indian corn is a universal food. All animals like it—biped and quadruped; horses, oxen, cows, calves, colts, swine, poultry, dogs, even packs of hounds that are kept for the chase, are frequently fed on a warm, Indian bannock, morning and night. It is wonderful how many ways it can be prepared so as to be not only nutritious but exceedingly agreeable to the taste. In "corn

dodgers," brown bread, "Indian puddings," corn cake of a dozen different patterns, corn fritters, corn starch, and many others which the "cook book" would tell us about if we had time to turn to it. The stems and leaves, also, of the corn plant are largely used in a green state for feeding to milch cows, and when dried they are our best fodder, next to English hay. A crop every way so valuable should not be checked by a growth of weeds, or by neglect of hoeing and otherwise stirring the soil, and especially if the season is a dry one.

Laying Land to Grass. As the grass crop is an important one, it should be a matter of constant care to see that the land devoted to it is in a proper condition for its growth, by drainage and depth and richness. A considerable portion of the lands which are mowed are suffered to remain until they are so much exhausted that the crops they produce will scarcely pay for going over the ground. This may be prevented by a light annual top-dressing of fine manure, but it must be commenced *while the roots are in a vigorous condition.* There is no better time, perhaps, to renew old grass land, or to reclaim low lands, than the month of August. If properly managed, it requires but a single year to change a hard and unproductive field into a productive one.

In order to accomplish this no more must be undertaken at once than there is team and time sufficient for the work, and manure enough to give the grass a vigorous start and sustain it well until the field gets a top-dressing. The work is often attempted with teams too weak and plows too light. In trying to get a sufficient depth, *one* gets broken and the *other* tired, and then come the doubts whether it will ever pay to reclaim an old meadow, or plow deep and subsoil upland.

Plow eight to twelve inches, harrow thoroughly, level with great care with hoe and spade, then enrich with fine manure, sow seed plentifully, say *eight* quarts of herds grass, *one* bushel of redtop, and early next April *eight* pounds of clover per acre. In a soil thus prepared, the seeds find all things necessary for a quick and healthy germination and rapid growth. The air, light, heat and moisture are admitted in such proportions as the seeds require to give them a sure and early start. Thus by deep plowing, fine manure, and thorough preparation, little or no loss is sustained in seed, while a good crop is quite certain, let the succeeding season be wet or dry.

Seeds. Gather seeds as they ripen, and save only those that are plump and perfect for your next year's use. They will require attention every day. If you do not give it the birds will.

Army Worm. You will probably find them on the apple trees, side by side, like a platoon of soldiers, eating clean as they go—ugly looking, repulsive customers. Cut off the twig that holds them and put your heel on it. They ought not to be allowed to multiply.

Milch Cows. In dry seasons, in many pastures, cows lack water, and during the hot, sultry days, they suffer, and in consequence the milk pails are not filled at night. When you are exceedingly thirsty think of this, procure a refreshing drink, and then go directly and ascertain if the cattle in their pastures are abundantly supplied with pure, cool water.

Budding. August is a suitable time for this work. Put the boys to practice in budding apples, peaches, pears, plums, and any thing that requires it.

Weeds. Do not allow one in the garden, and none around the outside rows of the corn or potato fields.

PAGE'S PUMP AND SPRINKLER.

This is a new pumping and sprinkling apparatus, that, in our opinion, excels anything of the kind heretofore invented. We have now four or five different pumps or sprinklers, intended for house, garden and hot-house use, but none of them equal to this in ease of operation or efficiency of work. It is small, light to carry, easy to operate, and adapted to almost every use, from that of sprinkling the most delicate plant, to dashing the water forcibly against dirty windows or carriages.

Water can be spread with it so as to fall in a fine mist over a space from two inches to ten feet square, or changed instantly to a "coarse spray" or a "single jet," and thrown thirty or forty feet.

It requires no change of nozzle, and in our experience with it, it has never clogged or needed cleaning out. It is a beautiful and useful invention.

Nothing that we have seen is so admirably

adapted to sprinkling plants that are infested with insects, to sprinkle floors, grass plats and borders, flower beds, strawberry patches, &c., &c., and in case of fire inside of the building it would be of great service.

PRICES OF FARM PRODUCE.—The New York *Journal of Commerce* gives the following table of prices of farm products at New York on the first day of May in each year, for the past twelve years:—

	Cheese, ₩ lb	Butter, ₩ lb	Pork, ₩ bbl	Wool, Merino.	Hops, ₩ lb	Hay, ₩ cwt.	Corn ₩ bush.	Flour, ₩ bbl.
1856.	.10c	.20c	$15.50	.48c	.09	$0.80	$0.62	$5.50
1857.	.13	.27	18.90	.56	.10	.75	.80	6.00
1858.	.08½	.25	15.35	.37	.08	.45	.73	4 25
1859.	.10	.22½	12.75	.56	.13	.75	.86	5.50
1860.	.10	.14	14.25	.55	.10	.95	.82	5.50
1861.	.07	.16	13.25	.47	.16	.80	.67	5.20
1862.	.08½	.18	10.00	.49	.15	.65	.58	5.00
1863.	.12	.19	13.00	.78	.20	.80	.94	6.00
1864.	.17½	.31	23.87	.77	.28	1.60	1.38	7.10
1865.	.20	.35	25 00	.70	.35	.90	1.48	6.90
1866.	.20	.50	24.00	.62	.65	.60	.86	7.10
1867.	.19	.28	19.00	.65	.60	1.90	1.40	10.79

For the New England Farmer.

WORN OUT SOIL.

Much is said of the worn out and exhausted soil of New England, of our pastures covered with wild juniper, of our scanty crops of grass in the fields, of our short crops of corn, wheat and general field crops; and the cry comes up on every side that farming in New England will not pay.

Our fathers took possession of a soil rich in vegetable humus, formed by the primeval forests which had nourished and protected the soil for long ages in the past. The forest gave way to the woodman's ax; the fire passed over and consumed the wood and all surface vegetation, and the result was the ash was left. This the rains quickly dissolved and washed deep into the soil, or it was taken off in crops and no fertilizing material returned; leaving, as a consequence, an exhausted soil.

Our ancestors did not understand the modern usages of composting, manufacturing, and saving manures. Neither did they require it, for land was cheap. If one field was exhausted, it only required to move a short distance to another, to go through the same system again.

Many times, in contemplating the subject, I have almost been struck with wonder that our soil has held out as well as it has, and that as a general thing it produces as much as it does, at the present day. When I have thought of the amount of flesh and bones that have been taken from our fields and pastures with the grain and roots and the little return that has been made, I have been ready to exclaim, our soil was *rich*, and is rich still! Man, by his short-sightedness and ignorance cannot exhaust it so that nature and judicious cultivation cannot restore it to its primitive fertility.

My motto is, that each farm and each *acre* has the material within itself, with the aid of air, rain, and sunshine, and man's labor judiciously laid out, to produce, in a few years, fair and paying crops, and to continue such production for an indefinite period.

When man is willing to become the student of nature, and to be governed by nature's sure and perfect laws, then agriculture will flourish. We see that an exhaused field or pasture, if let alone, will quickly set with the young saplings, which soon spread out their branches, and shade and protect the soil. The leaves fall and decay, the earth becomes mellow, the leaves yearly absorb from the atmosphere, and their fertilizing materials are deposited in the soil; while the roots, by their extension, break up and pulverize the earth to a good depth. After ten years, examine this soil. It is not the hard, thin earth that it was ten years before, but is a mellow, rich mould. Let these trees grow ten years more, and then remove and cultivate the soil as we should, and we shall hear no more of an exhausted soil, and unprofitable crops. H.

Epping, N. H., 1867.

GRAINS.—According to the analysis of Cinhof of the different quantities of nutritious and succulent properties—starch, gluten and mucilaginous sugar in the various kinds of grain—the following appears to be the relative proportions:—

In Wheat, per centum,	78
" Rye,	70
" Barley, as to quantity and species,	65 to 70
" Oats,	58
" Peas,	75½
" Beans, (French,)	85
" Windsor Beans,	68½
" Horse Beans,	73

PLACENTA—RETENTION.—Sometimes cows cause trouble to their owners, occasionally loss also, by the retention of the placenta after calving. It was the custom among Yankee farmers in old times, and is now among dairymen in Herkimer Co., as we learn from Mr. Willard, through the Utica *Herald*, to feed cows a mash of bran and water as warm as they will take it, as a means of removing the obstruction. This usually proves effective without aid from anything else. Another cure is mentioned, consisting of sharp cider vinegar, heated nearly to the boiling point, and poured upon the bran and fed warm to the cow.

—A correspondent of the *Country Gentleman* says that he has had several twin calves of opposite sexes, and he has known of several born to other breeders, and that he knows of no instances where the heifers bred or where the bull failed to be a good breeder.

COMPLETE FARM HOUSE AND STABLE.

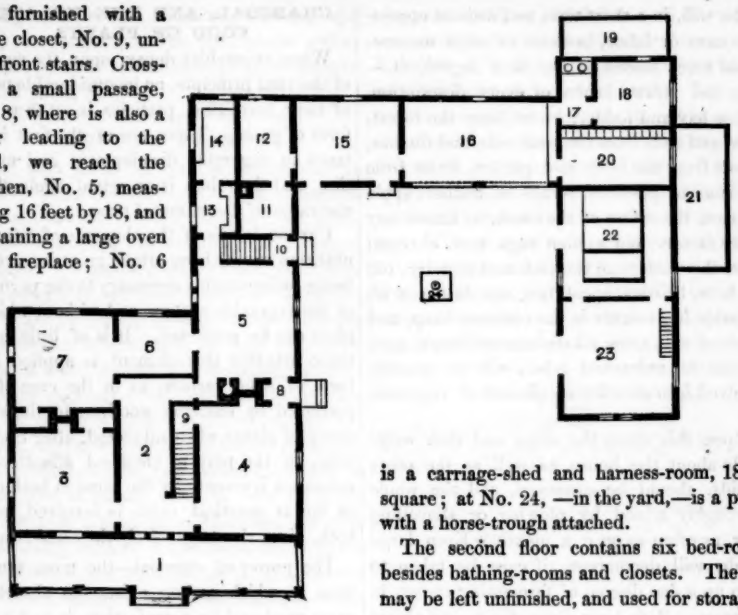
In connection with the remarks in another column, of our correspondent "K. O." upon the subject of the proper construction of farm houses, and especially as illustrative of what he says of the economy and conveniences of the square form, we present the accompanying plans, designed by Geo. E. Harney, and engraved for the NEW ENGLAND FARMER. The connection of the house with the barns and other outbuildings is not at all essential to the plan of the house; neither are the porch or dormer-window. We prefer a plain roof, and believe that the garret should be used as a sleeping room only from absolute necessity, especially during our hot summer seasons.

The following explanations of the plan are furnished by the artist:—

No. 1, the veranda, is 8 feet wide, and extends across the whole front of the house; it opens into the main hall, No. 2, which is 11 feet wide and 24 feet long; No. 3 is the parlor, 16 feet square; No. 4, living room, 16 feet by is a large store-room, 8 feet by 9, opening directly into the kitchen; No. 7 is a bedroom, 15 feet by 16. At No. 10 is another entry, 3 feet wide, leading to the yard; here are also stairs to the chambers and cellar; No. 11 is a scullery or wash-room, 8 feet square, with a chimney in the corner; No. 12 is a tool-room and shop, 8 feet by 13; No. 13 is a pantry, fitted up with sink and shelves; No. 14 is a dairy, 6 feet by 13. From the work-shop a door opens into the wood-house, No. 15; this is 13 feet by 16, and connects with the open carriage-shed, No. 16, 13 feet by 24.

The barn is planned as follows: No. 17, passage leading to the privy and to the covered portion of the pig-sty, No. 18. No. 19 is the yard connected; No. 20 is a hen-coop, 9 feet by 18, fitted up with a couple of rows of nests, and opening upon the hen and stable manure yard, No. 21; No. 22 contains stalls for three horses, with feeding troughs in front; No. 23

20, furnished with a large closet, No. 9, under front stairs. Crossing a small passage, No. 8, where is also a door leading to the yard, we reach the kitchen, No. 5, measuring 16 feet by 18, and containing a large oven and fireplace; No. 6



is a carriage-shed and harness-room, 18 feet square; at No. 24, —in the yard,—is a pump, with a horse-trough attached.

The second floor contains six bed-rooms, besides bathing-rooms and closets. The attic may be left unfinished, and used for storage.

IMPORTANCE OF MANURE.

Manure is the farmer's gold mine—the true source of the cultivator's wealth. Every one, therefore, who is engaged in agricultural pursuits should tax his wits and his energies to the utmost to secure a sufficiency of the article, and to apply it in such a manner as to secure the best and most affluent results.

The stock kept on the farm will, of course, produce the usual quantity every season; but the supply from this source is often wholly inadequate to the demands; and they who rely exclusively upon it, will often fail in consequence of not having enough to render their business profitable, even with the greatest exertions they can put forth.

When a regular manure shed or barn cellar does not constitute a portion of the fixtures of the farm establishment, the business of forming or compounding manure may often be economically prosecuted in the barn, or even in the yard. The latter should be located on level ground, and have a solid bottom to prevent the escape of the urinous and rich carbonaceous matter from escaping or soaking into the soil.

As no part of the actual food of vegetables is insoluble, a considerable portion of the richest constituents of manure—whether animal or vegetable—is too often lost by allowing it to be leached and run off into the highway, or, as we have many times seen it, into brooks or rivers; or by excessive evaporation or sinking into soil where it is not needed.

If the yard be on a sandy foundation, the centre of the enclosure should be scooped out so as to present a central depression of at least two feet, in a yard of fifty feet in diameter, and the entire surface covered with clay, in which a sufficiency of coarse, sharp gravel,—free of loam or vegetable matter of any kind,—has been mixed to bring it to the consistency of firm, hard mortar. A covering of three or four inches in depth, well worked and firmly compacted by ramming, will, if suffered to dry properly, last for many years, and prove an effectual barrier against the loss of the fertilizing liquids by infiltration; while the elevated edges of the yard will prove equally efficient in preventing loss by washing.

Into a yard so constructed, all the materials ordinarily used in composting may be conveyed as convenience allows, and when mixed with the liquid and solid voidings of the ani-

mals, will, in a short time, and without oppressive care or labor, become valuable manure. Good muck should be the chief ingredient,—then old straw, haulm of every description, refuse hay and fodder, leaves from the forest, loam and sods from the road side and ditches, weeds from the fields and garden, ferns from the runs in pastures, scraps of leather, apple pomace, the refuse of the comb, or almost any other factory, old woolen rags, soot, charcoal dust, the wash from the sink and laundry, old feathers, bristles, spent tan, saw dust, are all valuable ingredients in the compost heap, and if mixed with some alkalescent substance, such as lime or unleached ashes, will be speedily resolved into an efficient aliment of vegetable life.

Upon this mass, the slops and dish water made about the house, as well as the other liquids, should be conveyed, and the whole thoroughly mixed by plowing or shovelling over, as often as once a month. Even large shrubs will decompose, if care be taken to keep up a due degree of fermenting energy in the mass. Rich loam from those low places that may be seen by the side of every highway, which are constantly catching the wash from the road, is a good ingredient, as it possesses in an eminent degree, the power of absorbing the rich juices which emanate from the other materials; but care should be had not to let it preponderate too largely over the putrescent constituents, as in that case it would produce more harm than good.

Copperas water sprinkled weekly over the surface, with a few bushels of gypsum and salt will be very beneficial.

Where such a process as this is constantly going on, the farmer is never at a loss what to do with the *waste matter* that is accumulating day by day on every farm. There is the place for the potato, pumpkin and squash vines, the pea and bean haulm at harvest time, and the rubbish that is collected from the garden and fields in the spring. An incidental good is also secured in the neater appearance about the buildings, by picking up the bones, bits of leather, and whatever gives the surroundings of the buildings a careless and slovenly appearance.

A yard, such as we have described, regularly filled and cared for, will be worth more to the farmer, than one thousand dollars at interest.

CHARCOAL, AND THE VOLATILE FOOD OF PLANTS.

When vegetables decay, upon the cessation of the vital principle, no inconsiderable portion of their fertilizing particles is set free in the form of gases. These are of the first importance in vegetable development and maturation, and their loss is an actual diminution of the value of the manurial mass.

Carbon is one of the elements of vegetable nutrition to which we attach great importance, being indispensably necessary to the perfection of the vegetable system, and without which no plant can be perfected. It is of little importance whether this element is applied in the form of solid carbon, as in the case of coal produced by charring wood, or by the slower decay of plants when subjected, after their demise, to the play of chemical affinities—the substance is essentially the same in both cases, as far as practical value is involved, and in both, gives rise to precisely the same results.

The power of charcoal—the most tangible form in which carbon exists—to absorb the gases produced by putrefaction, is well known to be great; hence, as an economizing agent, its use in agriculture cannot be too frequently urged. De Saussure ascertained, by actual experiment, that charcoal (formed of box wood) absorbed, in twenty-four hours, and retained within its structure, the following volumes of gases:—

Hydrogen,	1.75	volume.
Nitrogen,	7.15	"
Oxygen,	9.25	"
Carbonic acid,	9.42	"
Olefiant gas,	35.	"
Carbonic acid gas,	35.	"
Nitrous oxide,	40.	"
Sulphuretted hydrogen,	55.	"
Sulphurous acid,	65.	"
Muriatic acid,	85.	"
Ammoniacal gas,	90.	"

Charred peat is also a very excellent application for this purpose. It has been found to possess the following chemical composition:—

	Combustible.	
Carbon,	79.24	
Hydrogen,	2.20	
Nitrogen,	.54	
Oxygen,	6.44,	88.42
	Incombustible.	
Clay and silica,	2.48	
Oxide of iron,	1.66	
Phosphoric acid,	.34	
Silicate of potash,	.98	
Chloride of sodium,	2.53	
Carbonate of lime,	1.85	
Sulphate of lime,	1.44	
Loss,	.30	11.58
		100.00

The gaseous compounds of phosphorus are amenable to the same general law, being ex-

tremely volatile, and exhibiting a strong tendency to escape into the atmosphere unless arrested by some substance capable of absorbing and fixing it.

RENTING FARMS.

The idea of going to the poor-house is scarcely more repulsive to young American farmers than that of cultivating a hired farm. While we respect the ambition that prompts the desire to become a land owner, we believe that young men and even those more advanced in life are frequently placed in circumstances which make it advisable to hire for a few years, at least, instead of purchasing at once. We have recently published some suggestive articles on this subject. A friend and relative of ours, who now owns many broad acres and pays a round income tax, commenced life on leased land in an old town in New England. We allude to this subject at this time, however, from having noticed a statement made to the New York Farmers' Club by J. T. Donavan of Otranto, Iowa. He writes that for three years the State has levied taxes on his homestead to the amount of $70. He was short of means when he began, and has been able to put only seventeen acres in cultivation. For this sum he says he might have rented as much or more improved land, and estimates that he might have lived more comfortably and made more money by doing so.

THE MANGE

Is a cutaneous disease, and contagious. If in a large herd, a single animal is attacked, it is seldom that any escape. The diseased cattle should be removed to some distant stable at once, where there can be no possible communication with the others.

The symptoms are a dry dandruf or scurf about the roots of the hair, attended with severe itching and inflammation, inducing a violent rubbing. It is first seen about the tail, and thence spreads in every direction.

The causes are various. Over-feeding, or under-feeding will produce it. A sudden change from the lowest diet to the richest will bring it on in its worst form. Filthy stables, and want of cleanliness about the animals themselves will produce it,—but not so readily as improper feeding. The treatment to effect a cure is simple. Prepare an ointment of three gills of spirits of turpentine, three-fourths of a pound of flour of sulphur, and oil enough to reduce the whole to a thin plastic unguent. Rub this in gently, but thoroughly, with the hand or a soft brush—the hand is best, and there is no danger in doing it. Whale oil is disagreeable to use on account of its smell, and linseed oil is of too drying a nature. The best oil, perhaps, would be new butter, before being salted; this would be sweet, soft and penetrating. This mixture may be kept in a tight vessel for years, and would prove an excellent remedy for the "mange," as well as for several other cutaneous and contagious diseases to which cattle are subject.

THE GOLDEN GRAIN.

The grain! the grain! the beautiful grain!
How it laughs to the breeze with a glad refrain,
Blessing the famishing earth in her pain,
Making her smile with glee;

Lifting in praise each bright golden crown,
As it drinks the dew that the Father sends down,
Courting the sun's warm lover-like frown,
Returning it smilingly.

The grain! the grain! the beautiful sheaves!
A song of joy their rustling weaves,
For the gracious gift that the earth receives,
Given most royally.

From every hill side, every plain
Comes the farmer's song as he reaps the grain;
And the summer breeze wafts on the strain,
In wildest harmony;

A grateful song of rejoicing to greet
The Master, who sendeth the seasons sweet,
Giving the grain, the golden wheat,
A blessing for all to be.

He pours o'er the earth his brimming horn,
That the valleys may laugh and sing with corn,
While hope, with her death trance, rises new born,
The brighter days to see.

Our Father, we thank Thee! the beautiful grain,
Brings a blessing like that, when the soft summer rain
Comes down on the parched earth, nor bids it in vain,
Rejoice and hope ever in Thee.

Hope ever, and trust! Thy thoughts, not like ours;
Thou sendest the drought, then bringest the flowers,
Withholdeth the grain, then, with magical showers,
A glorious harvest we see.

And so for the grain! the beautiful grain!
The golden, the laughing, with glad refrain,
Blessing the famishing earth, in her pain,—
We offer our worship to Thee.

—*Mrs. T. F., in Rome, Geo., Courier.*

WELDING IRON.—M. Lietar, of Brussels, has described a new method of welding iron or steel, or iron with steel. He calcines and reduces to a fine powder, 1 kilogramme of iron or steel fillings, 100 grammes of sal ammoniac, 60 grammes of borax, and 50 grammes of balsam of copaiva. One of the pieces of iron or steel to be soldered is brought to a red heat, and after being cleaned with a wire brush, the powder is spread upon it, and the other piece of metal, at a white heat, is brought in contact with it; thus a perfect welding is effected.

BOCCONIA.

This is a greenhouse plant which is cultivated for its beautiful foliage. It is used for the decorations of beds and lawns in summer, but must be housed in winter. It can be had of Washburn & Co., Boston, and of other dealers in flowers, &c. The variety shown in our engraving is that known as *Bocconia frutescens.*

LETTER FROM THE FARM.

CONCORD, June 13, 1867.

GENTS:—I have just returned from a very pleasant visit into Worcester county. Last August, business called me to the town of *Barre* and some of the neighboring towns, and I then improved the opportunity to visit several farms, look carefully at their stock, and observe modes of husbandry. I was then so much pleased with what I heard and saw, that I suggested to several of the farmers of this town that it might be profitable to them, and especially to those raising milk for market, to go and see the dairy stock of that portion of Worcester county.

. In accordance with this suggestion, some dozen of them turned out their teams, and at 7 A. M., Monday, June 10, the "cavalcade" was on its way. Passing through a portion of Acton, Stow, Bolton, Lancaster, and Sterling, the party paused at Princeton five hours for dinner, and for opportunity to look at the farm of JOHN BROOKS, Esq., of that town. Mr. B. was busily employed in one of his orchards, *pruning*, and in reply to a question, stated that about the *middle of June*, was the most appropriate season for that operation. A long experience convinces me that he is right. He very kindly left his interesting work and accompanied us over his large, and fine farm, nearly every portion of which, buildings, fences, fields and stock, were carefully observed. Numerous questions were answered with a clearness and affability that gave the interview a charm, while the replies were instructive or suggestive, on very many points. Some of his grass fields were already covered with a crop that surprised every beholder; indeed, it did not seem to me, that such a crop could stand until in blossom without injury to its quality. The grass seemed to stand as close together as the fur on the back of a fox! The question occurred, whether the dampness near the ground would not be so great as to rot the lower portions of the leaves, and thus create a mould which would affect the whole crop? But Mr. B. will undoubtedly have an eye to that. The stock in his pastures were literally "up to their eyes in white clover,"—were actually feeding upon fragrant flowers and wild honey. I doubt whether that oft-quoted strip between the Tigris and the Euphrates could boast of more than this. He has a meadow in process of reclamation, first by drainage, and then by surface working, which afforded us an excellent example of what fine grass fields can be made from our low and cold lands,

that are usually covered with brakes, bushes and unprofitable water grasses.

A portion of Mr. B.'s men were preparing the ground for a crop of carrots. It had probably been plowed once or twice before, this spring. The team plowed several furrows, which the men would immediately follow and rake, leaving it in condition for the seed-sower without further labor,—so that when the plot is finished, it is smooth, and not a foot-print upon it.

The farm is a very stony one, and has probably required more cost to remove them out of the way than it has cost, aside from that, to reclaim all the land now under cultivation. To remove them so effectually as has been done from the broad, clean fields which we saw, must have been a work requiring long and persistent effort, and attended with great cost.

When the rocky farms of New England were entered upon some generations ago, the question undoubtedly arose every day—"*what shall we do with these stones?*" and the thousands of acres which are now cramped and divided by them, show the answer to have been, "*We will put them up into walls.*" And they did put them into walls, in some instances dividing the fields into lots of *one* acre, up to three, four, and rarely more than five. This was an expensive job to begin with, and has made the cultivation of the fields inconvenient and expensive ever since. In some neighborhoods, a vigorous reform has been commenced in this respect, and I noticed splendid fields of ten to twenty acres now, which were formerly encumbered with a labyrinth of cross-walls.

In the instance before me, as in many others, Mr. Brooks succeeded his honored father, upon an estate where the work of reclamation had been greatly advanced under the old system, and where it will require half as much labor to remove obstructions to improved modes of husbandry, as it did to erect them. But I think he has commenced that work, as I noticed upon his farm, and upon others near him, large and beautiful fields without any appearances that they were once ancient fortifications.

It seems to me a waste of human energy and skill, to enter upon the hard and rocky soils of New England, to work them out into profitable farms, and fit them for the homes of a people so far advanced in civilization and the refinements of life. Such a course leaves little or no time for the cultivation of the intellect and affections. It becomes a life "*under* the harrow." It is a stubborn effort to overcome the still more stubborn obstacles of nature. Let such lands be covered with forests, and when they are required, let a portion of the soil which they occupied be burnt over, cropped once with rye, laid to pasture for a series of years, and then return again to forest.

But if some young men, with unconquerable will, and with muscular power which seems to them equal to a forty-horse-power steam engine, will enter upon such lands, I advise them to build no more stone walls than are absolutely necessary to confine their stock within the limits of their pastures; no others, not even on the road-side. Let the laws protect them there. Let them begin on the land nearest to the buildings, tear up the surface and place a foot below it all the stones that can be crowded together. If there are large ones, too large for the team, split or blast them, and then plunge them into some valley of Hinnom, or cover some bald ledge with them that mars the beauty of the landscape, where they may remain undisturbed through all periods of time. An acre of land treated in this way, will feel the effects of such a trenching for half a century, and will probably yield *more actual profit* to the proprietor, than any other *five* acres on the farm, treated as rocky land usually is.

It costs something to travel over and around fifty large rocks ten or a dozen times annually, to say nothing of the tools and machines smashed to pieces against them, and the laming of teams, which not unfrequently takes place.

Thanks to Mr. Beman, the landlord at Princeton—besides the cash left with him—for making his house a *real home* to us when he took us in, somewhat tired and hungry.

The early evening ride over the hills from Princeton to Barre was delicious, and afforded fine opportunities to observe the condition of farming, from the elevated positions which were frequently passed over. The world had on its holiday attire. We were exhilarated by the cool, refreshing breeze, and freedom in the open air. The brooks sang, as well as the birds, as they coursed their way down the hill-sides, or leaped in miniature falls from

rock to rock. The inspiration of the Psalmist did not seem extravagant to us, when he said, "the little hills rejoice on every side. The pastures are clothed with flocks; and the valleys are covered over with corn; they *shout for joy, they also sing.*" So did we; and our steeds seemed to catch the spirit, too, and bore us gaily along, as though they were the winged Mercurys of old.

One of the party, now a farmer, but long accustomed to the harrassing responsibilities of public office, which he discharged with signal promptness and ability, exclaimed, "Isn't this *real* enjoyment! There is nothing fictitious about it. The cares of the past and the duties of the future shall not cast a shadow upon *to-day*. This is *real enjoyment!*—this flush of health, these forest or grass-covered hills, fertile valleys, running brooks, singing birds and rampant horses! *Now*,—as we wind through this sweeping valley, with the bending alders over our heads,—this is enjoyment, pure, rational, and entering into the very soul, to become there a permanent fountain of pleasing and grateful recollection." So we had our little episodes of *criticism* upon the works of the craft, or a flourish of rhetoric, or a tall brag of what certain steeds in the party could do when put to their mettle. It *was* enjoyment, and would have been almost without alloy, had our sometimes boisterous mirth been attempered and graced by the presence of some of the gentler sex.

Many of the excellent farmers of Barre, together with some gentlemen of other professions, met us at the Hotel in the evening, where many mooted points in agriculture were pleasantly discussed, and many acquaintances formed which I trust will be continued for years.

The first visit of Tuesday morning was at the *cheese factory*, situated quite near the centre of the village. About 14,000 pounds of milk were received that morning, the result of which, the next morning, would be about 1,400 pounds of cheese. We were too early to witness many of the steps required in the process of making, but as you have occasionally referred to them in the Farmer they are unnecessary here.

The next call was to examine Mr. Bullard's *Hay Tedder*, and two or three *horse rakes* of different patterns; one of which he stated he raked eighty acres with, last summer, with rapidity and correctness. His *Tedder* is well known among progressive farmers, and ought to be very generally introduced. Where fifty tons of hay are cut upon a farm, I think the use of it would pay its cost in a very few years. I am inclined to think it would in *two* years.

The party then passed along to look at one of the *Improved Buckeye Mowing Machines*, manufactured by A. B. Barnard & Co., of West Fitchburg. It was examined with critical care, and was pronounced to have superior merits, and probably to stand at the head of all contrivances for mowing, by those who had seen it used, but who had purchased other machines before they were aware of the superior excellence of the Buckeye. At the same place, a new pattern of what was known last year as the *Bay State Horse Rake*, was shown us by the inventor, Mr. S. R. Nye, who resides in Barre. This was also examined with great care, and much confidence was expressed in its becoming an important labor-saving machine—one of scarcely less value than the mower itself.

The party, attended by several of the Barre farmers, then called at the farm of D. B. Derry. They saw only a portion of his stock, which was excellent, and did not go over his farm.

On the farm of A. H. Holland were found seventeen cows, which as a herd, were excellent; the breed of nearly all we saw being grade Durhams. He is introducing the Ayrshire blood, and had a very fine bull of that breed, one of Mr. Peters' stock. Mr. H. thinks a cow that will dress 700 lbs., when in good flesh, is the right size for the dairy. A portion of his pasture was thinly covered with brush, such as apple tree trimmings, and waste bushes from under walls, &c. He stated that it was worth far more, spread in that way, than the ashes would be if the brush were burnt; that it partially *shaded* the ground; that the feed about it was more abundant, and that it did not obstruct the cattle in feeding. Both theory and practice were new to us.

Mr. Wm. R. Barrett had twenty-seven cows, all beyond an ordinary quality, and some of them of great beauty and excellence. They ought to be productive on such pasture as they were grazing. We found them at 12 o'clock,

in a park of lofty trees, where there was little or no underbrush, lying down and quietly chewing the cud of contentment on the green sward beneath them.

From this farm we passed to what I believe is called the *South Cheese Factory*, where we saw some parts of the process of cheese-making that we could not see in our morning visit. The curd was now ready to go to the presses, and its quality was liberally tested by most of the party. It certainly was inviting both in taste and smell. As in the other, every thing here was the perfection of neatness and order.

Thence to the house of Mr. J. T. ELLSWORTH, where some fifteen to twenty sat down to an excellent dinner, and proved that they were as accomplished as *trencher-men* as they were in any other duties of the farm. After the heroic exercises had been gone through with at the table, including a glass of pure, home-made wine, Mr. E. showed us his stock of dairy cows, some thirty in all. As a whole, they were superior to any herd we had seen. Some of them were beyond criticism in symmetry. One of the party pointed out a two-year old heifer, and offered $100 for her, and to incur the cost of getting her home. The same sum was offered for another of the same age, a half blood Jersey, but he declined both. He had recently received nearly $500 for a pair of beef cattle, and the cow alluded to in my letter last summer, dressed nearly 1,300 pounds! His barn is 132 feet by 46; and is annually filled with hay and grain from about forty acres of land, which is all he has under cultivation. His buildings, fences, roads, &c., are in excellent condition. His whole stock amounts to about fifty head.

Mr. ELLSWORTH has great faith in the land; thinks it a good place for the investment of capital, and finds a reasonable profit from it. Believes in progress, in entertaining visitors and going a visiting; in purchasing the best stock, even at high prices, and in the application of science to the operations of the farm. The only evidence of sticking to old notions I discovered about his place, was a decrepit Manny Mowing machine, which I suppose he preserved on the principle of speaking well of a bridge that carries us safely over,—that is, he has never got killed on it, and, therefore, it is a very good machine. Mr. E. is evenly yoked to a charming person who presides in the house, and who takes an intelligent interest in all the affairs of the farm; who once assisted her dairy-maids in making one or two hundred pounds of cheese each day, but who finds great relief and comfort now in seeing the milk started off for the cheese-factory. Under this easy-going system of order and harmony, farm life is relieved from many of the almost intolerable burdens which once oppressed and shortened the lives of so many women. "Worcester county cheese," said Mr. Ellsworth to me, "has sent more Worcester county women to untimely graves, than all other causes combined!"

The next and last call was at the farm of Mr. S. E. BATES, and we had time to look only at his herd of cows, which was worthy the highest praise. Two or three of them surpassed in form and product any we had seen. He had recently paid $221 for a two-year old heifer, a short-horn grade. One of the older cows gave 63½ pounds of milk per day, for ten consecutive days. He has thirty-one cows.

At dinner, and during a portion of the time of our perambulations, we had the company of J. H. GODDARD, Esq., the editor of the Barre *Gazette*, who, though speaking through type and quill, is decidedly interested in progressive farming, and informs his readers of advances in the art, and frequently places before them suggestions for still greater improvements.

At 5 P. M., we took leave of Barre, sensibly impressed with the beauty and fertility of the town, and with the cordial attentions of its intelligent and agreeable people.

Ambling along at a pleasant pace, the party reached the *Wachusett Mountain House*, in Princeton, at 7, now rounded and perfected by the presence of Barre friends with their *ladies*. Late as it was, one of our number scaled the mountain and returned before 9, laden with wild flowers. In the neat and commodious parlor of the house, various topics were discussed, anecdotes related, music attempted by some of the gentlemen, but with exceedingly poor results. The evening waned into night, and night into morning, before the party became prone and quiet.

At 9, on Wednesday, the whole party ascended the mountain and had a fine view of the surrounding country. Having descended, the *Barreans* departed to their pleasant town, and

our party to Fitchburg, where we dined. A pleasant ride of thirty miles after dinner, brought us to our respective homes, grateful for the opportunity of seeing more of the country at this beautiful season, of learning valuable facts relating to our business of life, and forming an acquaintance with enterprising and intelligent people. Truly yours,

SIMON BROWN.

MESSRS. R. P. EATON & Co.

DIFFERENT FLAVORS IN CHEESE.

Two or three years ago, while acting as one of the committee on agricultural matters at the Mechanics' Fair, in Boston, we were called upon to examine several parcels of cheese, and to award premiums to those which were considered the best.

All the samples presented were as near perfection, *to the eye*, as possible. Nothing could be suggested by any member of the committee, that would make them more attractive in appearance. They were all excellent in form, color and density, and they appeared as if the art of the manufacturer had been exhausted in producing them.

When, however, the several cheeses were probed and *tasted*, it was clear that they were alike only in their outward appearance. Some of them were mild, and had that exquisite cheesy sweetness which recommends them to all, while others had a sharp, almost rancid flavor, which made the tongue and mouth smart upon tasting them.

The "statements" presented by the contributors were carefully examined and compared by the committee, and were found to give the *manner of making* the different lots of cheese so much alike that they came to the conclusion that the cause of difference must be imputed,

1. To the amount and manner of using the rennet employed, or,

2. To the qualities of grass on different farms.

They were not satisfied, however, that either of these was the cause of the great difference which they found existing in the cheese before them; and they separated without coming to any conclusion as to the cause.

It was the practice among dairy-women—many years ago, perhaps it is now,—to put *about a table spoonful of salt, to each gallon of the evening's milk*. This was sprinkled on the bottom of the pan, the milk strained upon it, and it then stood until morning, when it was mingled with the morning's milk.

It was found that this practice enabled dairy-women to produce finely-flavored cheese on farms that had been pronounced totally unfit for dairy purposes.

The effects attributed to the salt, were,

Preventing the milk from souring, in the hottest nights,—and

Encouraging coagulation, and promoting the separation of the curd from the whey.

If the practice has not been adopted by cheese-makers, would it not be well to make the experiment?

NEW PUBLICATIONS.

THE FARMER'S ACCOUNTANT, a Comprehensive and Systematic Application of Accounts, adapted to the wants of the Practical Farmer. By C. O. and F. Perkins, Chester, Mass.

This is a blank book, or rather three blank books bound together, each one neatly ruled, with printed headings, and intended for a year, with blank plan for farm, farming inventory, cash, farm, family and incidental accounts, expenses, stock and crop accounts, blank agreement with hired help, experiments, improvements, &c., &c. Mr. F. Perkins informs us that his father, who is a practical farmer, has always kept a close account of all his farm and business transactions, and that the present work is the result of his own and of his father's experience in practical farm book-keeping, and not the mere fancy sketch of a retired merchant. With this book the farmer has little more to do than to fill up the blanks, which are so neatly arranged as to make the clumsiest fingers itch to be using the pen.

From our own observation and experience upon the farm, we do not regard book-keeping, as essential to pecuniary success. A particular course, or a particular crop, may succeed this year, and fail the next, on the same soil, with or without a debt and credit account. Farmers are subject to droughts and floods, to the ravages of insects and disease, which cannot be counteracted or explained by the most carefully kept balance sheet. Still, we believe that every farmer should practice some system of book-keeping, and make some record of events upon the farm, in the family and neighborhood.

Students and professional men often injure their bodily health by excessive devotion to head work; and farmers, in like manner, are liable to neglect the proper exercise of their mental faculties in consequence of severe bodily labor. To guard against this tendency of his occupation, we would recommend book-keeping to every hard working farmer. He should *take* time to write, to add and subtract, to "keep his hand in," if for no other purpose. By doing so, both himself and his boys

will take an interest in their business, and form an attachment to the farm, which they might not do, if no account were kept with the several fields, crops and animals which they cultivate or produce.

For the New England Farmer.

NOXIOUS ANIMALS, INCLUDING INSECTS.---NO. VII.

Plant Lice.---Continued.

Another anomaly of the *Aphidians* is, that they are both oviparous and viviparous. The perfect winged insects appear in the spring or early summer, and again in autumn; the females, sometimes wingless, then laying eggs, from which is hatched a generation of wingless lice, apparently of one sex only, and generally called females, which are viviparous without the interposition of males, bringing forth a numerous progeny like themselves, which in turn bring forth another like progeny, and so on, to the seventh or eighth generation before the winged males and egg-laying females again appear.

In regard to this singular manner of reproduction, Prof. Walsh, of the *Practical Entomologist*, says: "How under these circumstances the process of generation is accomplished, is a curious, and at present, an unsettled problem. Some distinguished German Entomologists maintain that these so called females are neuter (*Ammen,*) without any regular ovaries developed, and that it is by a sort of budding process, analogous to that of the Polyps, that the young plant lice are developed within the parent stock. I have just heard from Mr. Darwin that it has been demonstrated by Balbiani, in a paper recently published, that these individuals at first are neither females nor neuter, but hermaphrodites. If this be so, it is the only known instance of an animal, so high in the scale of creation as an insect, being of the hermaphrodite sex."

In the zoology of Agassiz and Gould another theory is noticed,—that the so-called intermediate females are not parents, by budding or otherwise, but nurses, preserving in their own bodies, and committing to the bodies of their successors the offspring of their ancestors.

The well known fecundity of plant lice has been the basis of some curious calculations in regard to their possible increase in a given time, and under favorable circumstances. Fortunately for us, such circumstances do not often concur, so as to make their theoretical increase practical; yet their actual increase is sometimes astonishing. The year 1861 must have been highly favorable to the oat louse—before described as of a reddish brown color, called also the grain louse, because it is found on wheat, rye, oats, barley and to some extent on Indian corn. In that year they appeared in multitudes which no man could number, simultaneously throughout New England and some of the Middle States, damaging more especially late spring grain. Just before an acre of wheat, belonging to the writer, began to ripen in that year, it was estimated from a careful examination and several countings, that the number of plant lice infesting that crop was equal at least to one-half of the number of grains of wheat. The product of the acre was eighteen bushels, and allowing seven hundred and sixty-eight thousand grains to the bushel, there were nearly seven million of lice. Yet this large number is not one-eight-hundredth part of the possible theoretical number of the fifth generation from a single progenitor, according to Reaumur. Or, in other words, a single female *Aphis*, on this theory, might be the parent of a fifth generation sufficiently numerous to stock more than eight hundred acres, with one louse to every two grains of wheat. And as this species matures very rapidly, and the generations succeed each other at short intervals, all this vast increase might take place in a few weeks. Practically no such increase ever takes place, yet the progenitors of the myriads of lice that infested the grain of 1861 were so few that neither they nor their offspring were generally noticed until after the heading of the grain.

Among these grain lice no winged or perfect insects were discovered, although such are always found on the apple tree in the early part of the season. This absence of the perfect insect I supposed to be due to the time of observation—it being too late for the winged lice of spring, and too early for the winged lice of autumn. But it is stated in the January number of the *Practical Entomologist* that Dr. Fitch, who carefully watched this *Aphis* the year round, failed to find any eggs, or egg-laying lice. So that this species not only excels in fecundity, but is even more mysterious than other species in its manner of reproduction. It was also noticeable that these lice were not attended by their usual friend, the ant. The reason for this non-appearance, I now learn from the same authority, is that this species excretes no sugar or sugary fluid.

The vast number of grain lice in 1861, and their paucity in previous and succeeding years, cannot be accounted for on any theory of the presence or absence of parasitic insects, or any other theory that has as yet been suggested.

Being curious to know what would become of this host of little animals when the grain reached maturity, I closely watched them from day to day, and brought several stalks into the house, from which stalks, as soon as dry, every louse dropped and perished, without making any provision for a future race; and apparently, so did it happen in the field; for when the grain matured not a louse or egg could be found.

Mysterious creatures—they came—they perished, and left no record from which to unfold the secret of their mission. They did not seem to be sent, like the locust or army worm, as a rebuke for man's transgressions, nor like quails to rebellious Israel, to be food for

Reaumur's hungry parasites, for they were not there to eat them. Like many individuals of the human race, unless we take into the account their own enjoyment of life, they seem to our imperfect mental vision to have been made in vain. I. B. Hartwell.

Wilkinsonville, Mass., 1867.

For the New England Farmer.

TALK WITH AN ILLINOIS FARMER.

Potatoes.—I think you use too much seed. I find two eyes better than more. I cut my potatoes into small pieces generally containing one eye; I put two in the hill. After they are cut, let them lay and dry a week or more before planting. The cut surface will become dry and the moisture from the pieces will not be absorbed by the soil, but will go to nourish the shoots. When the potatoes begin to show themselves in the rows, take one horse and a small plow, and throw the soil on one side on to the row, then come back on the other side doing the same, and cover the young shoots from one to two inches deep. They will grow up through the soil strong and stocky. Then go through the rows the other way, throwing up the soil in the same way. If there should be need, go through the row with a horse hoe or cultivator. We never use a hand hoe in field culture of potatoes.

Corn.—With the machinery we now have, I can cultivate eighty acres as easily as I could fifteen acres when I went there, thirty years ago. With four good horses and a gang plow, which turns two furrows at one time, I mount my seat and go around an eighty acre lot. A skilful hand will drive the team, and manage the levers that throw out or in the plows. If the land is full of roots, it is best to have one man to guide the team and one to work the plows. Such a team will plow from four to five acres a day. This is as much as two teams with two men and single plows, will do, thus saving the labor of one man; and then, having rode all day instead of walking behind the plow, I am not used up, but can take care of my team and do my chores, and am ready for the work to-morrow. Thus with about sixteen days of good weather, I have my lot plowed. Then if I wish to make a nice job of it, I take two harrows and set them abreast, and three and sometimes four horses abreast, and harrow ten or twelve acres a day. This takes six or seven days. The next machine is the gopher. This is a plank a foot wide, with three pieces of wood like sled-runners, four feet apart, attached to one edge, and a pole to the other. This pole goes between a pair of horses. With this machine I mark out the rows one way as straight as possible; then I take the corn planter, fill the hopper, take on a bag of seed corn for ballast, hitch on a pair of horses, and take one man to drive and one to work the planter, and we can plant ten or twelve acres a day. The marking and planting will occupy about twelve days. Then my eighty acre lot is planted. This, taking out the Sundays and rainy days, will take about six weeks; so if a man has but one four horse team, he must begin in season—and it is easy to see how rainy weather and long storms put us back in cultivating large fields. When the corn begins to show itself, I take my harrow and a pair of horses, and harrow the field again. It does not injure the corn, and is the best way of keeping down the weeds. The work after this is done with the plow or cultivator. When the corn is ripe, we take a wagon and pair of horses, and go through the field, taking five rows at a time, and pick the ears; then with another machine we cut the stalks and throw them into rows, ready to be burned. Thus the whole work of cultivation is done by machinery.

Follow the corn with spring wheat, and sow a part, or the whole field with clover and feed it off in the fall. Cattle will thrive on this till December. The next year you may cut a large crop of clover, and when you plow it, the clover roots will be equal to a dressing of manure.

Rye.—I raise more rye than formerly. I think there is more raised in the State. Have raised four hundred bushels in a year. I have two reasons for it: First, it makes good pasture in the late fall and winter. Sow it early and let it get a good start, and it makes fine pasture. I sow three pecks to the acre. Second, grass seed is more sure to catch well with rye than with any other grain. We sow two bushels of wheat and three of oats, and they are apt to smother the grass, but with three pecks of rye the blades come up so far apart that the grass has a chance to get rooted, so that when the rye tillers out, it will not kill it. When it is ripe, a sufficient quantity of the grain will shell out, to bring up quite a crop of rye, which is valuable in the fall and the next spring for pasture. I sow clover with rye and wheat, expressly for pasture in the fall and winter. Cattle will eat blue grass in the field all winter in preference to corn fodder and oat straw, and will thrive on it. Colts will paw off the snow and eat clover and blue grass, in preference to fodder from the stack. Clover is the most profitable crop of grass. It yields two crops. I pasture the second crop, unless I wish to save the seed. I seldom cut a crop of hay when I can manage to make the cattle or horses mow it for themselves. By a little management, so as to have a crop of grass or rye for winter pasture, our cattle require feeding only from four to six weeks. Sometimes a few ears of corn a day is all they need.

Concord, Mass., June, 1867. R.

CUTTING GRASS EARLY.

As the haying season will soon be at hand, there is, I think, one point which was not noticed last season in the discussion in the *Country Gentleman*, in favor of cutting grass early,

and I think it is now time that the subject might be introduced again. The various grasses which grow in our meadows are perennial, and when we seed down a piece of ground for meadow with the kind of grass we wish to grow there, or even if good grasses come in without seeding, it is very important that the same plants should continue to grow healthy and vigorously year after year, and produce thick and heavy crops, free from weeds or thin and almost barren places.

Now it is self-evident that if weeds and other plants can be exterminated by mowing, that there are especially some stages in the growth of grass in which meadows may be injured by mowing. At what time, then, can it be cut with the least injury to the plant itself? In cutting timber it is usually observed that young and thrifty trees throw up sprouts from their stumps much more vigorously than larger and older ones; also when cut in the winter preceding, or during the growing season, than in the autumn when it is just over with. Farmers usually take advantage of this fact in cutting bushes, and wait until the season's growth is completed. It then gives the vitality of the root such a shock, it being at this time in an exhausted state after its utmost exertions are fairly over with, that its constitution is irreparably ruined. Not only in cutting bushes, but in cutting weeds, is the same principle found by practice to be true; and by cutting them at this season great headway is made in their extermination.

Why can we not apply the same principle to our faithful grass plants in the meadow? Why should we let them become grown up, and their forces all expended, and then ruthlessly cut down all, trusting to luck to retain even one spark of life in them? Would it not be better to prune them graciously and in season? Why should we wait till our grass is all what is styled "fit to cut," (that is, its greatest degree of perfection for fodder attained) before a single stroke is cut, and more than half cannot be harvested until it gets too ripe? It is true perhaps, that more weight is attained then than when cut when two-thirds or three-quarters grown, but is it really worth so much for milk or for fat? and besides do we not get it all in a second crop or aftermath? Then again are we not much safer against a drouth just after haying, which has ruined irreparably millions of these little roots in a late cut meadow? and further are we not better prepared for a vigorous and healthy growth the next season? —*S. N. Beers, in Country Gent.*

WORKING BULLS.

I have one of Emery's endless chain powers to drive my hay cutter. My bull is an Alderney, two years old, weighing a little over 900 pounds. I put on the brake and had him led into the power, where he had a small feed of oats given him. While he ate these he was groomed and caressed. Then, while he was eating, the break was slacked a little, and as the floor moved down, (slowly, so as not to alarm him,) he stepped up to keep his muzzle at the oats. At the fourth lesson, he walked an hour, and cut hay enough to last my stock —some eighteen head in all—two or three days.

We have not had the slightest trouble, and so much does he appear to like the exercise, and the pleasant remembrance of the reward of good behavior, that I shall not be surprised if, when he happens to find the door open, he should go in and "run the machine" on his own account. I intend to put up a circular saw and let him cut my fire-wood.

Now for the advantages. The pampering and confinement which makes a horse run away, will, in time, make a bull devilish. The work I give him requires no harnessing; it is only an hour's walk up a hill of 13° elevation. It gives him an outlet for his superfluous spirits, it keeps him "in hand" and gentle, it wears away the growth of his hoofs, develops his muscle and improves his health. Have I not a right to expect my herd to be benefited by such management? I thought so before I knew Prof. Agassiz's opinion.—*Cor. Country Gentleman.*

PREVENTION OF SECOND SWARMS.—"A Beginner" inquires the best way to prevent second swarms or after-swarming.

He will find that if he removes the hive which has swarmed, or from which he has taken a swarm, to a new location, some distance off, say a dozen yards, he will not be troubled with after-swarms from it, because it will lose so many of its old bees that few remain who have the "swarming fever."

I advise this way with all confidence, for Italian colonies. I have tried it for several seasons, with them, and never had it fail. I have an impression that the common bees may sometimes lose too many bees if removed so far, though a correspondent informs me that he has, by my advice, so moved his common bees, and they did not lose too many. I have noticed that the Italians are quicker to find their old home when it is removed, if it has any distinctive color or marking about it, than the black bees.—*Mrs. Tupper, in Prairie Farmer.*

—Hiram Bartlett, in a late address before the Ohio Dairymen's Association, made the following statement: The amount of capital invested in the dairy business of Ohio, is estimated at $264,628,850, of which the cows, at $50 each, amount to $34,516,750; the land at $50 per acre, $207,101,100; teams and implements, $23,011,000. In 1865, the number of milch cows in Ohio was 695,337; the butter product, 32,554,835 pounds, and the cheese product, 16,940,213 pounds.

TRAINING OF THE TOMATO.

We have laid aside for publication an article on the "Waste of Force in Vegetation," by Mr. Thomas Meehan, editor of the Philadelphia *Gardener's Monthly*, which suggests a philosophical theory to account for the practice of old grape growers who cut off the tendrils of the grape vine. The theory is, that these tendrils exhaust the vital force of the plant in their efforts to discover or reach something to cling to. Here, perhaps, is the philosophy of trellising grape vines, of bushing peas, of poling hops and beans, and of supporting tomatoes. Now, boys, try the experiment illustrated by the cut. You all know how the "support" of a good bed saves or recuperates *your* vital force, and increases your ability to labor. Perhaps a tomato plant may in like manner enjoy the stakes and hoops on which it rests, and may possibly express its gratitude by expending the "force" thus saved in the production of superior fruits.

For the New England Farmer.

NOXIOUS ANIMALS, INCLUDING INSECTS.---NO. VIII.

Plant Lice.---Concluded.

It appears that the grain-lice of 1861, came and perished, regardless of the presence or absence of these brave and renowned enemies, the *Coccinella* and *Chrysopa*—the lady-bird and golden-eyed, lace-wing fly, or other insect parasites. The lady-bird may be known by a quaint and unscientific description of the man who called it "a miniature spotted mud-turtle" (tortoise). The golden-eyed fly which is about one-half an inch in length, Harris describes as "of a pale-green color, having four wings, resembling delicate lace, and eyes of the brilliancy of polished gold, as its genuine name *Chrysopa* implies."

Having read that the first mentioned, both in the young and adult state, and the *larvæ* of the last mentioned, were wont to prey incessantly and voraciously upon plant-lice, I made diligent search for them in the wheat field mentioned in our last article, and became satisfied that their number was wholly inadequate to diminish the lice in any sensible degree. Writers on injurious insects are particular in their descriptions and commendations of these and other beneficial insects, that they may become known and appreciated by the cultivator. We do not doubt or undervalue their services, but until they become more numerous, they will be wholly inadequate to the suppression of plant-lice. We have seen how little they accomplished in checking the increase of the grain-louse in 1861, and I have never had an apple tree, when once infested with lice, cleared of the pests by the services of the parasitic insect or birds. We have abundant means of repelling plant-lice on a small scale, but their possible increase in any year renders them a power for mischief, entirely beyond our control.

One valuable fact was established by inquiries and investigation in 1861,—that while late sowed spring grain was much injured, winter and early sowed spring grain suffered very little. Our acre of wheat, that year, was an average crop in quantity and quality.

The sum of our protracted remarks in regard to these Aphidians of the grain, is that judging from the past, they may not often be expected to visit us in large numbers; that their advent cannot be prevented, nor their attacks repelled by ourselves and our insect and bird allies, when they do come; and that their injuries may be mainly avoided by early sowing.

In regard to spring wheat, of which I have not failed to have a fair crop in any of the last seven years, I consider early sowing, irrespective of lice, indispensable. My practice is to sow on dry land, after corn; ploughing in the fall, and harrowing in the seed the spring following, as soon as the ground is in a condition to be stirred. If it can be done in March a good crop is almost sure; if neglected till May, a failure is as sure. I have tried only two varieties of wheat, Java and Scotch Fife—prefer the Java.

The only plant-lice with which I have seriously to contend, are the *Aphides Mali*, or plant-lice of the apple-tree. Their attacks, with us, have been chiefly on young and rapidly growing trees and grafted scions. Sometimes they

are found on a luxuriant sprout or sucker of a mature tree; which sprout or sucker we are very willing to see checked, but are rarely on the mature and bearing branches.

Even where they are unwelcome, they are sometimes of some service in checking a too rapid growth late in the season, and in causing the young twigs to harden before the approach of winter.

Fumigation with tobacco is a common and effectual method of removing lice from house-plants; and a decoction of tobacco or solution of whale oil soap is frequently used in nurseries and fruit yards. Strong soap-suds, made from common soft soap is death to lice. The only difficulty in regard to these last remedies is in the application. If a syringe or garden engine is used, too much of the liquid will be wasted. When the twigs and small branches can be safely bent over and dipped in a dish of the louse-killing liquid, the work is effectually and cheaply accomplished. When this method cannot be used with safety, a saturated sponge or soft rag carefully applied, so as not to break the foliage, will do good service.

Some eight or nine years ago, the quince-trees in this vicinity, previously healthy and fruitful, were attacked with a blight, causing the foliage to appear, at first, somewhat hoary, or as if mouldy. This appearance was soon succeeded by the brown and sere leaf, and eventually, by the death of the shrub,—so that quince bushes only exist now with us, historically. Some hasty and partial examinations of this blight disclosed numerous but minute plant-lice:—a discovery which at the time, led me to the conclusion that they were the sole cause of the blight. But having since heard other causes of the destruction of the shrub assigned by intelligent cultivators, I have doubted the correctness of my first conclusions, and regret that a more thorough examination was not then made.

The *Aphis Brassicæ*, cabbage-louse, found also on mustard, turnips, and other plants of this order, is of a greenish color, partially covered, as is the plant which it infests, with an excretion in the form of a whitish powder. These lice are sometimes quite troublesome to the market gardener. I am informed by one of my neighbors, Mr. Whittemore, who has been an extensive and successful cultivator of cabbages, that these lice begin to appear about the time of the first setting out of the plants from the hot-bed, and continue till the latest harvest, in early winter; that he has never noticed a winged-insect, though he has never scrutinized the infested plants with a view to such discovery; and that they are accompanied by the same ant that visits the apple-tree lice;—from which we conclude that they are in the sugar manufacturing business.

His remedies were ashes, lime, and plaster in powder, applied separately or mixed, by dashing the same on to the infested parts, by hand. Several applications were necessary in some seasons to suppress the vermin.

I. B. Hartwell.

Wilkinsonville, Mass., 1867.

EXTRACTS AND REPLIES.

The season in Windsor County, Vt.

We have had the same subject to talk about here that they have in other places, viz.; "A cold, backward spring." The supplies of hay and grain for feeding stock was short, while the grass was still shorter; so that a good many farmers were plagued to keep their stock along decently till the grass grew. But the crisis is past; the pleasant summer is at hand, laden with blessings, and the farmers have abundant reason for anticipating good crops for the coming harvest. The hay crop in particular bids fair to be far better than that of last year.

Bright Summer has come with her beauties again,
Her warm breath is noticed on mountain and plain;
With sweet scented blossoms she's crowning the bowers
And nursing them kindly with sunshine and showers.

She's welcomed by all, both the young and the old,
She brings for them jewels far brighter than gold;
Whether lowly or humble, wealthy or poor,
With a smile of affection she enters their door.

Royalton, Vt., June 1, 1867. J. G. Bennett.

Spavin of a year's standing.

Please inform me through the columns of the Farmer, if a horse which has a bone spavin of about a year's standing can be cured, and what remedy you would apply, and oblige

An Old Subscriber.

Ryegate, Vt., May, 1867.

Remarks.—We have so often "delivered ourselves" on this subject, that we are glad to reproduce the following remarks by Dr. Paaren, Veterinary Editor of the *Prairie Farmer*, who says, "the application every second day, of a liniment, composed of two parts of olive oil, and one part each of creosote and oil of turpentine, will to some extent relieve pain, if not lameness. Blistering and firing are frequently employed, but with no better success than milder remedies, and at all events the cure only goes so far as to prevent the horse from going lame; but in this case even, we only call the failing *mended*, for it certainly is not *cured*, though the lameness may be so. We say 'mended only,' because the cure is somewhat similar in effect to the mending a broken or splintered lance-wood gig-shaft by splicing to it a stiff piece of wood or iron. The shaft is certainly mended, rendered safe, useable, and as strong as ever, but its elasticity, on which depends its chief merit, is forever gone; and this, in a minor degree, is the effect that mending a spavin hock has on its motion; though if spavin is taken in hand as soon as it is perceived, and before stiffness of the hock takes place, the horse may then be nearly or quite as well as he ever was. But the severest of operations will not restore elasticity if it has once been destroyed. 'Bone spavin' is a term applied to a tumor on the inside of the hock joint, proceeding from an ossific or bony deposit, which forms a junction of the small bones of the joint; of course preventing

the freedom of their action, and producing pain and lameness—a lameness that, in a plurality of cases, no skill, no treatment, no operation can beneficially effect."

PROFIT AND EXPENSE OF POULTRY.

I have noticed a number of reports of late on the large profits of fowls. I think they do not charge all the expenses, or the breed of fowls must be very small feeders. I now send you my account for 1866:—

Stock and Value, January 1, 1866.

27 fowls at 75c, $20.25; 8 late chicks, $3.20	$23 45	
13 ducks at 75c	9 75	
		$33 20
54 bush. F. feed, 25.10; 20 bush. oat meal, 17.85,		42 95
24 do. corn, 26.90; 18 do. cracked corn, 18.40,		45 30
18 do. oats, 14.15; 5½ do. meal, 6.50		20 65
5 do. potatoes, 3.00; 100 lbs. wheat, 2.45		5 45
321 lbs. scraps, 6.42; 12 doz. eggs to set, 5.23		11 65
24 doz. eggs set, at 38c, 9.12; 11 doz. duck's eggs, 4.47		13 59
2 ducks, 4.00; 4 roosters, 5.80, bought,		9 80
1 bbl. lime, 1.75; whitewash brush, 50c; salt, 15		2 40
3 boxes, shipping fowls, 75c; dressing poultry, 1.50		2 25
Laths and nails		7 08
Lathing, plastering and white-washing coop,		12 00
	$206 32	
Profit		104 64
		$310 96

Stock and Value, January 1, 1867.

40 fowls, 75c, $30; 16 ducks, 75c, $12,	$42 00	
3 turkeys	3 00	
		$45 00
Sold 107 hens and chickens	102 39	
" 47 ducks, 45.89; 27¾ bbls. manure, 27.25	73 14	
" 130 doz. 9 hens' eggs, 37c	48 38	
" 15 " 1 ducks' eggs, 40c	6 03	
		274 94
Stock and eggs used in the house:		
7 hens, 70c, 4.90; 5 ducks, 1.25, 6.25		11 15
24 doz. 10 hen's eggs, 37c		9 18
39 doz. 3 duck's eggs, 40c		15 69
		$310 96
Whole No. hen's eggs laid	179 doz.	7
" " duck's " "	65 "	4
	244 doz.	11

I always get roosters from other stock, to breed from, otherwise they will soon run out.

Salem, Mass., 1867. JAMES BUFFINGTON.

A NEW THEORY IN RESPECT TO BOTS.

From long and close observation, I am satisfied it is much easier to prevent horses from having bots than to cure them, even if chloroform, as recommended in a late FARMER, is a certain remedy. It is the generally received opinion, that after the fly has deposited its egg on the hair of the horse, the subsequent existence of the bot depends on the egg accidentally falling into the horses' food, or being nibbled off by him and swallowed, and thus reaching the animal's maw, where it matures, is subsequently discharged with the excrement, becomes a perfect fly, which again deposits its egg as before. This theory leaves the propagation of its species to the merest accident; a thing which has no analogy in nature, as the great Creator has nowhere else left the continuation of any species he has created to mere chance. But I am fully satisfied that this theory is incorrect, and that the reproduction of this insect is no more left to chance than is that of any other. My theory is, that the fly instinctively deposits its eggs at well selected points, near the vital parts, or near some large arteries and veins leading to those parts, where in a few days the animal warmth completes the incubation, and the larva with unerring instinct easily makes its way through the animal's porous skin, and flesh, if need be, to his natural home in the maw. Let any one wishing to satisfy himself of this, examine the eggs after they have been on the hair of the horse a few days, with a microscope, or without, if their eyes are good, and he will find it only a shell, with a hole in the lower end, where the larva has evidently made his exit.

As a remedy or preventive, it is only necessary to scrape off with a sharp knife the eggs every two or three days, or as often as any are laid, without any fear that they will fall into the horses food or be licked up by him. I have practiced it for many years, and my horses have had no trouble with bots. THOMAS ELLIS.

Rochester, Mass., Feb. 25, 1867.

REMARKS.—For once, the generally received opinion agrees with the books. In Tenny's Natural History, recently published, it is said that there are in this country more than twenty species of the *Æstridæ*, or Bot-Fly family.

"The genus *Gasterophilus* comprises three species which infest the horse. The large Bot-Fly, *G. equi*, Linn., lays her eggs upon the fore legs of the horse; the red-tailed Bot-Fly, *G hæmorrhoidalis*, Linn., lays her eggs upon the lips; and the brown Farrier Bot-Fly, *G. veterinus*, green under the throat. By biting the parts where the eggs are laid, the horse gets the larvæ into his mouth, swallows them, and, clinging to the walls of the stomach, they remain there till fully grown."

This theory is adopted by Mr. Youatt, in his work on the horse, and by the American Cyclopedia, article Bots. But the books also assert that "bots cannot be injurious to the horse, for he enjoys the most perfect health while the cuticular part of his stomach is filled with them." This dictum of the veterinary schools of Europe, Dr. Dadd says, is contradicted by the stubborn facts of his practice as a veterinary surgeon. "On the strength of past experience," says he, "together with what Prof. Gamgee has written on the subject, I do believe that bots are often injurious to horses."

If science is thus at fault in its theory of the effect of this parasite, possibly it may be mistaken as to the means by which the bot reaches the stomach of the horse, and that our correspondent has made an important discovery in Natural History. We must confess that his reasoning is not entirely satisfactory to our own mind. His objection that the old theory leaves the perpetuation of the species to mere chance, is no more forcible than it would be in respect to other well-known provisions for the propagation of many inferior animals and plants. The hole in the egg, also, is as well accounted for on the old theory as his own, so far as we can see. Still we thank him for his thoughtful communication.

AN INFALLIBLE REMEDY FOR LICE ON COLTS.

Take equal parts of ground, pure, black pepper, powdered sulphur, and yellow snuff; it takes one-half pound of each for a yearling. Get a square tin dish, and mix the parts together, and apply it dry. Do this by holding the tin up against the colt and carefully and *faithfully working the pow-*

der into the hair next to the skin. Common brushing or careless working it with the fingers don't do it. It kills every louse in thirty minutes. Possibly some nits may escape, but a second application four days after will make sure death of them. This application is as harmless to the colt as so much dry sand. L. T. T.

South Royalton, Vt., June 11, 1867.

BLOSSOMING OF APPLE TREES IN MAINE.

Having a record of the time of the blossom of apple trees for eleven years, I forward it to you, supposing it may be interesting to your numerous readers. These observations were taken in latitude 44° 30′ north.

1857	June 4.	1863	May 24.
1858	" 6.	1864	June 1.
1859	May 27.	1865	May 28.
1860	" 24.	1866	" 30.
1861	June 6.	1867	June 9.
1862	May 26,		

It will be seen that the present is the latest by three days, of the eleven years; fifteen days later than 1860 and 1863, and about seven days later than the average time of blossoming.

OLIVER PETTINGILL.

Rumford, Maine, June 10, 1867.

REMARKS.—We thank our correspondent for the foregoing facts, which are far more valuable than the guess work with which we too often test the seasons.

In this connection we print the following table of the blossoming of apple trees in Mansfield, Mass., about four degrees south of Rumford, Me., and 28 miles south-west of Boston, where vegetation is probably ten or twelve days earlier than at Rumford, which was furnished to the NEW ENGLAND FARMER, June 4, 1849, by Isaac Stearns, Esq., who remarks that "May 9, 1830, and June 2, 1812, are the two extremes. Difference, 24 days; the mean of which is May 21. The mean annual blossoming for the whole fifty-two years, is exactly May 21. The mean of the first 26 years, is May 22, nearly; and of the last 26 years, is May 20."

1798	May 13.	1824	May 19.
1799	" 19.	1825	" 15.
1800	" 17.	1826	" 15.
1801	" 17.	1827	" 17.
1802	" 26.	1828	" 17.
1803	" 21.	1829	" 21.
1804	" 24.	1830	" 9.
1805	" 14,	1831	" 14.
1806	" 27.	1832	" 31.
1807	" 27.	1833	" 13.
1808	" 18.	1834	" 20.
1809	" 25.	1835	" 29.
1810	" 19.	1836	" 21.
1811	" 15.	1837	" 30.
1812	June 2.	1838	" 30.
1813	May 25.	1839	" 18.
1814	" 14.	1840	" 17.
1815	" 27.	1841	" 26.
1816	" 28.	1842	" 19.
1817	" 23.	1843	" 22.
1818	" 29.	1844	" 11.
1819	" 25.	1845	" 21.
1820	" 17.	1846	" 15.
1821	" 27.	1847	" 28.
1822	" 16.	1848	" 19.
1823	" 23.	1849	" 29.

The next year Mr. Stearns sent us the time of blossoming for 1850, which was June 3, one day later than the late season of 1812.

A ROLLER GATE.

I saw a gate last week at one of my neighbor's farm that was hung on a roller. He said there was a patent on it, and that it had been advertised in the FARMER. It is a common gate, very simple. If you cannot inform me who has the patent will you please make the inquiry in your paper.

Passumpsic, Vt., June 10, 1867. E. A. PARKS.

REMARKS.—We do not recollect about the advertisement, but in looking over our back volumes in an attempt to find what was referred to, we came across the following directions for making a cheap and simple gate of inch boards. Make the latch end piece four inches wide; the hinge end, eight inches; lower board, eight inches; next above, six inches; next two, four inches each; brace, six inches; the whole secured by wrought nails clinched, and hung with strap hinges. Such a gate, the writer says, can be made and hung, after the posts are set, in two hours. Now, who will answer Mr. Parks' inquiry?

FALL FEEDING.

Sometime ago, I saw among the "Extracts" in the FARMER, a piece headed "Fall Feeding." Many acknowledge fall feeding to be wrong, but practice it on the plea of necessity. I think one might as well justify himself in hiring money at 100 per cent., by the same plea. After a field of grass is mowed, let a child pass through the field two or three times a day, for several weeks in one beaten path, and this path can be distinctly seen the next summer, although not used at all that season. By this fact we may form some estimate of the damage done to a mowing field by the much heavier pressure to which it is subjected by being fed by cattle and horses. E. B.

Derry, N. H., 1867.

A LARGE WHEAT CROP.

A field of a trifle over one acre of ground was summer-fallowed and sowed with wheat in September, by one of my neighbors. It yielded forty-one and a half bushels of good wheat, besides some poor wheat. But for a storm in July which greatly injured the crop, it is thought the produce would have been still greater. A SUBSCRIBER.

St. George, Vt., May 29, 1867.

REMARKS.—For the honor of St. George, of the Champlain Valley, and of your "neighbor," may we not ask for a more particular statement of this crop?

KING-BIRDS CAUGHT CATCHING BEES.

Mr. Eli Cooper of Winchester, Mass., informs us that while sitting near his hives watching the operations of the little busy bee, which so earnestly improves each shining hour, he has repeatedly seen the king-bird descend, and, hovering for a moment immediately in front of a hive, seize a bee, always in its middle, with its body at right angles to the bill, and therefore plainly to be seen, and at once fly off with its prize. As Mr. Mosely, in the FARMER of May 25, found no bees in the crops of those king-birds which he killed, as he thought, in the very act of catching them, Mr. Cooper suggested that the bird may swallow only the honey, &c., and reject the carcass or shell of the bee.

In his valuable work on Bee-keeping, Mr. Quinby

says he believes the king-bird guilty of taking only drones, and asks, "If he devours workers as well as drones, why does he not visit the apiary long before noon and fill his crop with them? But instead he waits until afternoon; if no drones are flying, he watches quietly till one appears, although workers may be out by hundreds." He adds he has shot them after seeing them devour a goodly number, but in every instance the bees found in their crops were so crushed that it was impossible to determine whether they were the remains of workers or drones.

SEASON AND CROPS IN CENTRAL MASSACHUSETTS.

We have had a very wet and backward spring, but now

> "The sky is clear, the woods are bright,
> The fields are fresh and green,
> And summer, in her robes of light,
> Reigns o'er us like a queen."

Wheat, oats, corn, &c., look splendidly, although the latter is a little backward on wet land. The crows have been somewhat mischievous, and we find it hard work to frighten the black varmints. The weather has been favorable for grass and there is a prospect that we shall cut a heavier crop than we have for several years. Rye is a very little winter killed, but in most spots it shows a very *wry* face. From present indications I think we shall have apples, peaches, pears, and plums in abundance. CHIEL.

Shelburne, Mass., June 17, 1867.

CROP OF WHEAT IN ST. GEORGE, VT.

In reply to our request for further particulars in relation to the crop of 41½ bushels of wheat raised on a little over one acre of ground in St. George, Vt., mentioned in the FARMER of June 15, we have received the following brief statement:—

The land on which the wheat grew, is about eighteen rods long by ten wide. The ground was plowed in the spring of 1865, but neither planted nor sowed until September or October, when it was sowed to winter wheat. The crop was harvested in August or September, 1866, and threshed in March 1867, and the grain then measured. The result was forty-one and a half bushels of good plump kernels and some shrunken wheat, as we Yankees call it. L.

St. George, Vt., June 15, 1867.

REMOVING WARTS ON COWS' TEATS.

I should like to inquire what is the quickest and easiest way of removing warts from cows, teats? Also should like to know the philosophy of planting potatoes near together. I know one man in this town who makes the hills two feet apart and gets first rate crops. Why is it?

Ashby, Mass., 1867. J. N. DAVIS.

REMARKS.—Tie a horse hair tightly around the wart, and after a day or two, take a piece of caustic potash, and draw it about the wart once each day, until the wart is eaten away. Or, shave the end of the wart until the slightest blood appears and then touch it with the caustic. The caustic may be found at drug stores.

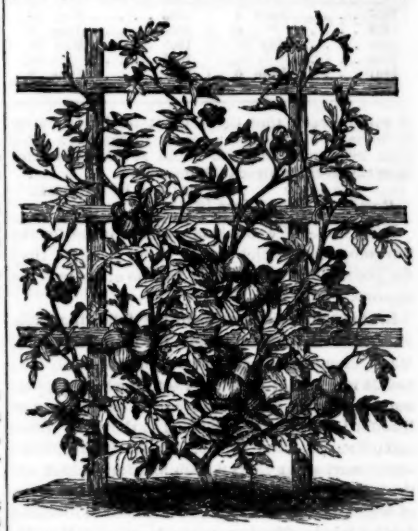
We do not quite understand what our correspondent desires to learn about the potatoes. The usual way of planting is two to three feet apart, each way, in hills. Some persons, however, plant in drills, and place the seed only a few inches apart, thinking they can obtain a larger crop by this mode of planting.

TRAINING AND TRIMMING OF THE TOMATO.

Please give in your next issue the best mode of training and trimming tomato plants.

Webster, Mass., June 16, 1867. A. G. SIBLY.

REMARKS.—Last week we gave a cut illustrating a simple means of training the tomato by means of three hoops attached to three stakes. We now present a trellis, which may be made by firmly



setting two stakes four feet in length, three or four feet apart, on a line with the plants, and nailing lathes or sticks, nine inches apart on the stakes, to which the plants are tied by any soft string.

Mr. Burr, in his valuable book, the Vegetables of America, says that when the two first trusses of bloom have expanded over each shoot, the shoot should be stopped by pinching off the portion which is beyond the leaf above the second truss, and no more lateral shoots should be suffered to grow; but the leaves must be carefully preserved, especially those near the trusses of bloom. The number of shoots on each plant will vary according to the strength and vigor of the particular plant; but three or four will be quite enough, leaving about half a dozen trusses of fruit. The ripening of the fruit may be hastened by setting the plants against a south wall or close fence, and liberally watered if the weather be dry.

The *Gardener's Chronicle* gives the French method as follows: "As soon as a cluster of flowers is visible, they top the stem down to the cluster, so that the flowers terminate the stem. The effect is, that the sap is immediately impelled into the two buds next below the cluster, which soon

push strongly, and produce another cluster of flowers each. When these are visible, the branch to which they belong is also topped down to their level; and this is done five times successively. By this means, the plants become stout, dwarf bushes, not above eighteen inches high. In order to prevent their falling over, sticks or strings are stretched horizontally along the rows, so as to keep the plants erect. In addition to this, all laterals that have no flowers, and after the fifth topping, all laterals whatsoever, are nipped off. In this way, the ripe sap is directed into the fruit, which acquires a beauty, size, and excellence unattainable by other means."

But in ordinary field culture, and by those who raise tomatoes for the market, little attention is paid to training or trimming.

THE CUT WORM.

As the origin and habits of the Cut Worm have been a subject of doubtful disputation, I will here relate my experiments. The latter part of last August I procured some of the worms, placed them in a box with earth, fed them on tobacco leaves until they refused to eat, and buried themselves in the earth. In two weeks I dug them up and found they had gone through a state of transformation, each one being encased in what I shall term a sarcophagus, about an inch in length, being pointed, and resembling in form a gimblet handle, with traces of legs, wings and horns thereupon, denoting it would come up a winged animal. I broke open one of them and found it to contain thousands of eggs, about the size of a grain of sand. I covered them up again, and in the latter part of September they came up brown millers containing the eggs. These millers deposit their eggs in the fall upon decaying vegetation, and die, their mission being fulfilled. The eggs remain amid the wreck of decayed vegetation, and are ploughed under in the spring, and as the ground warms and vegetation increases, they burst their fetters, and the worm renews his ravages. And so on through successive generations. The leaf tobacco worms, with which I have likewise experimented, remain in their sarcophagus until spring, and come up large white millers, which deposit their eggs upon the plant in the stillness of night and morning, and in eight and forty hours they become worms three quarters of an inch in length. They sometimes are found upon the tomato plant, varying somewhat in their outlines, but the insect is the same. LEANDER MORTON.

Hatfield, Mass., June, 1867.

REMARKS.—After these experiments, we are confident that our correspondent is not only better prepared to contend against the ravages of these voracious worms, but he has a new interest in their history. Several years ago, Prof. Harris, author of a most valuable book on Insects Injurious to Vegetation, tried a similar experiment with quite a large number of cut worms, gathered in June and July, from near cabbage plants, potato hills, cornfields, and the flower garden. They were all very similar in appearance, though different in size. They were soon changed to what naturalists call chrysalids, a preferable word, perhaps, to that used by our correspondent. The word sarcophagus, according to Webster's Dictionary, is now generally used to denote any stone coffin or receptacle for the dead. Primarily it meant flesh-eating, and at first it was applied to coffins made of a kind of lime stone that consumed the flesh of bodies in a few weeks.

Between the twentieth of July and the fifteenth of August, Mr. H. says his chrysalids changed to the moth state, and came out of the earth. Much to his surprise, however, these cut-worms produced five different species of moths. The annexed cuts illustrate the regular transformations of the peach tree borer, and other high orders of

Worm. *Cocoon.* *Chrysalis.*

insects. Most of the insects, says Mr. Harris, as they leave off eating, spin around their bodies a sort of shroud or cocoon, into which some interweave the hairs of their own bodies, and some employ, in the same way, leaves, bits of wood, or even grains of earth. Other caterpillars suspend themselves, in various ways, by silken threads, without enclosing their bodies in cocoons; and again there are others which merely enter the earth to undergo their transformations. The cut worms form no cocoons, but are changed to chrysalids in the ground, and as our correspondent says, appear

Female. *Male.*

as brown millers, which, after a brief existence in the winged state, and after depositing their eggs, disappear—having finished their course, and provided for the perpetuation of their kind.

RAISING ROOTS ON GRASS FARMS.

Brother S., of Roxbury, intimates that he thinks I should do well to substitute carrots as one of the rotation field crops instead of the potato. I think it would be a mistake to do so.

There are so many different circumstances and conditions in the cultivation of the soil that one theory or practice is not applicable to all. There is the market gardener, the fancy farmer, the silk gloved theorist, retired perhaps from some successful speculation, and sometimes a person with a very limited amount of land largely supplied with labor. Even the successful practices of either of these classes would be very irrelevant to the mass of farmers in a grazing district. It will not do for us to cultivate our farms as I see it stated Horace Greeley does his, at an expense of four or five times what the products might be bought for in market. We must cultivate to a profit. True, some of us cultivate too much for the *present* profit. In stirring the soil, the first object should be the preparation of the land for an abundant hay crop. That

being the staple product, and the most economical and only reliable cattle feed. All other crops, when made secondary to that, and rightly, economized, may be raised in sufficient supply for most farms. One of the greatest obstacles in the way of farming generally, is inability to get over our meadow land with some cultivated crop as often as it needs resuscitating. Hence the necessity of keeping land but one or two years at most under the plough; and of cultivating such crops as can be grown on a large number of acres in a year, to fit it for seeding down.

The carrot seed is one very slow to germinate, tender and delicate. The ground, for its successful cultivation, needs a tilth and richness too great to introduce it as a rotation crop on our mountain farms. The almost endless amount of labor required in dressing a carrot field, at a season when labor is from forty to forty-five dollars per month, or from two to two and a half dollars per day, is no inconsiderable item. And then the crop when introduced as above, might be set down, instead of twenty-five or thirty hundred bushels per acre, more safely at one third, or at most, one-half of that amount.

The different varieties of the beet and turnip may with much more propriety be introduced as a rotation field crop. I like a variety, and have had a limited experience in raising the different kinds of roots for the last thirty years. But only to the amount of six or seven hundred bushels in a year of the other kinds, and to the amount of three, and not less than one of the carrot, for the last fifteen years. I now raise less than formerly of the carrot, and believe it is the case generally in this mountain section.

In your correspondent's war of extermination on weeds, I heartily engage, also against every other foe of our soil, and with as much vigor as though I expected the fight to close at the end of ten years.

OLD NED.

Washington County, Vt., June 4, 1867.

HEN MANURE.

I have seen in the papers many statements in regard to the profit of keeping fowls, but few of them make any account of the manure. Now I think, judging from my own experience, that the manure from fifty hens, if carefully saved, properly composted, and judiciously applied, is more valuable than fifty dollars' worth of any of the manures that can be bought in the market.

Pelham, N. H., June, 1867. B. F. CUTTER.

AGRICULTURAL ITEMS.

— The first strawberries were forwarded from Cobden, Southern Illinois, to Chicago, May 20.

—The Fair of the Franklin County, Vt., Agricultural Society will be held at St. Albans, Sept. 18 and 19.

—Geo. W. Rublee, of Berkshire, Vt., made 2000 pounds of maple sugar from 500 second growth trees this spring.

—Charles Washburn, of Reading, Vt., sheared 23½ pounds of wool from his two year old buck, which had only ordinary keeping.

—Mr. Oliver Wilkinson, of Townsend, Vt., has a ewe sheep that has had and raised twenty-two lambs in eleven years.

— A correspondent of the *Country Gentleman* says that the corn planting machines in use in Illinois, though operating well when new and on land in good order, are liable to clog, and leave the work badly done. An improvement is needed by which the driver shall have warning when the kernels cease to fall into the furrow.

—Vermont suffers less from dogs than any State in the Union, and yet five hundred sheep were killed by these useless curs during the past year in five counties of the State.

—Messrs. S. and W. S. Allen, Vergennes, Vt., inform us that a Short-Horn cow of their herd dropped a calf that weighed 141 lbs. before sucking.

— The most wonderful labor-saving contrivance is to be the Pennsylvania Agricultural College. The students will be taught farming without learning to work.

— Dyer and Seneca D. Townshend, of Wallingford, Vt., have recently sold their entire stock of yearling merino ewes to A. E. Smith of Clarendon, for fifty dollars per head.

—The Shenandoah Valley, (Va.,) farmers have recovered from the effects of the war to some extent, and now have growing the largest and finest wheat crop ever raised in that section.

—If you have a screw rusted into wood, or a nut or a bolt that will not readily turn, pour on a little kerosene and let it remain. In a little while it will penetrate the interstices so as to be easily started.

— Through the whole South the earliest vegetables and the first spring chickens are brought into the towns by the freedmen. "And they save their money to buy them a farm, to lead a different life."

— Horace Greeley says that he lost $1200 by the Fawks' steam plow failure in Illinois, but he still expresses the belief that within ten years, land will be plowed twenty inches deep at a cost of $1 per acre.

—The *Prairie Farmer* states that Dr. Hull has adopted the plan of planting plum trees at stated intervals in his orchards of peach, cherry, &c., as nearly all the curculios can be caught upon them so long as there is any fruit to sting.

—The number of sheep returned by the auditor of the county of Portage, Ohio, in 1866 was 137,633; while the number for 1867 is but 124,427,—a decrease of 13,206 in a single county, equal to a falling off of one million in the whole State.

—Last year 130 mules and 100 hogs were wintered in Ohio on the product of 65 acres of corn, and they had it before them all the time. The foddering season there is usually about five months in length.

—At a late discussion on steam cultivation, in England, Prof. Voelcher said that he believed if steam plows were placed on our strong clays we should not want any drainage at all, further than to carry off surface water. The superior cultivation would improve the mechanical condition of

the soil to such an extent, that every inch of rain that falls upon the land would be required by the growing vegetation. It now goes through the drains simply because it runs through the cracks in the ground; it does not go through the soil.

— Mr. J. Strickler, Monroe, Pa., who has been a farmer fifty-six years, wishes to know how the Yankees manage to give their sons a good college learning and keep them at farming after they have got through? Who said they did do it?

— A piece of roofing slate, any thin flat stone, or even a shingle, placed under canteloupes, watermelons, &c., will prevent the ground from extracting the flavor from the lower part of the melon, and also considerably hasten its ripening.

—Mr. H. Murray, of Clay, Illinois, has a plastic slate roof which has been on eight months, and after a three hours' rain the water has a bad taste, which unfits it for a cistern. Besides this, it gives the water a yellow tinge, which strikes into the white clothes when washed.

— From a ewe 22½ months old, Mr. W. B. Denio of East Rupert, Vt., sheared a fleece, the growth of 11½ months, which weighed 18 lbs., and she had a lamb by her side. Her first fleece weighed 12½ lbs. She was sired by C. D. Sweet's (Hammond) buck of North Bennington.

—On Mr. J. T. Warder's farm of 600 acres, near Cincinnati, Ohio, there are four fields of seventy or eighty acres each, on which the rotation is to turn over the sod for corn, which is followed by wheat, then seeded to clover and timothy, and then mowed or pastured two years.

— The following grumble at the weather should be read, as it was evidently written, in a wet spell:

I'd like to hire a man to stop
Each crevice in the sky;
Though rain may benefit the crop,
I'm not a crop, not I.

— A correspondent of the *American Agriculturist* says that rats dislike coal tar very much, and that he is in the habit of daubing it about their holes and runs, with good results. Coal tar mixed with sand to the consistency of thick mortar, is an effectual stopper to rat-holes.

— We are informed by a correspondent that Mr. Daniel Carleton of North Andover, Mass., sold last year pigs to the amount of $160, the product of two litters of one sow six years old, besides three which he kept himself. There were ten pigs in the first litter and thirteen in the second.

— In regard to killing Canada thistles by plowing and hoeing, a correspondent of the New York Farmers' Club says he has a piece of land that has been hoed 15 years, and there are ten thistles now to one where he commenced. He succeeds better in mowing them when in blossom.

— Mr. D. T. Clough of Thetford, Vt., informs us that a buck of his from Sanford's Comet, which "was kept on poor swail hay, until March, and without exposure to the sun, this spring, sheared 21 lbs., and after shearing weighed 93 lbs." What would the fleece have weighed if the animal had been fed up to 125 lbs.? He was two years old.

—Prof. Vandervier states the grape growers on the Rhine, after experimenting a thousand years have found that a particular grape is required for a particular soil, which is of limited extent, and that guano, when applied, so injured the quality of the wine that the guano had to be dug out and thrown away.

— Cattle are becoming so scarce in the Northern States that it was encouraging to read in a late Jacksonville, Fla., *Union*, that such immense herds of cattle are roaming at will through the wilds of that State and Georgia, as to prove a serious inconvenience to the railroad trains which traverse those sections.

—The Paris Exposition correspondent of the *Prairie Farmer* says that Comstock's Rotary Spader, there on exhibition, has been tested and did most excellent work; that it is attracting very general attention, and is now being manufactured in England, Austria and Prussia, and that the implement is greatly improved over anything he had seen in this country.

—A creosoted sleeper, put down on the Stockton and Darlington Railway, in England, in August, 1841, was taken up March 14, 1867, after nearly 25 years' service. The grain of the wood, although slightly discolored by creosote, is as fresh and apparently as tough as that of newly-sawed timber, and the odor of creosote is as strong as if the wood had just been operated upon.

A SUMMER SUNSET.

It seemed as though the gates of heaven
Were opened in the West,
And all the angels looking out,
In shining garments drest.

Their radiant forms went flitting past
The gateway of the blest,
Then in a chariot of flame
They took the sun to rest.

—*H. M. L. in Rural New Yorker.*

—A correspondent of the *Country Gentleman*, whose experience with the Brahmas was unfavorable, says he had got out of patience with his common fowls, but when he commenced with the Brahmas, wishing to make a fair comparison, he gave them as good treatment as the Brahmas, and to his surprise they have laid more profusely, and thus far have proved, in all respects, superior to the Brahmas.

—During a late visit to the farm of Mr. J. T. Warder, near Cincinnati, the editor of the *Country Gentleman* was informed that in thirty years four wheat crops had been lost—in two instances from rust, and twice from freezing out. The crop of 1866 was a total failure, from the latter cause, throughout almost the whole of this part of Ohio. On 175 acres Mr. Warder did not cut a single sheaf! Land, labor, and seed, were a total loss.

—A dusting of dry wood ashes is recommended by W. N. Barnett, of West Haven, Ct., in the

Country Gentleman, as a protection from the curculio and other insects. His trees are trained low so that the ashes may be more easily applied. It should be dooe at *sunrise*, when the dew is on, as soon as the blossoms drop from the fruit, and repeated when washed off till the fruit is two-thirds grown—the object being to keep the fruit covered with a coating of ashes.

—A correspondent of the Lamoille *News Dealer* says he successfully defends his vine patches in this way: "Lay a board, one or more according to the size of your patch, between the rows, in such a manner as to afford shelter to toads in the day time, and leave it undisturbed, so that they will make their home under it, which they will do in great numbers. At night they sally out and devour every bug, and grow fat as aldermen."

—A correspondent of the *Prairie Farmer* at the Paris Exposition says, "The competition in plowing has thus far been between France and England; resulting very greatly in favor of the English manufacturers. The French journals attempt to apologize for this state of things by saying that the English competitors have brought with them chosen plowmen and horses. There is some point in this charge, yet nothing but very rude, ill-constructed plows, could do such wretched work, as the French plowmen have done. French plows are fifty years behind the age.

—Horace Greeley says that the year 1866 was remarkable for the general deficiency of its harvests throughout the Union. Former years were more palpably unfruitful—1816 especially so—1836 perhaps as meagre in its returns to the husbandman, but this in good part because he put forth too little exertion; but in no former year of this century was the failure of crops so widespread as in 1866. Wheat was less than half an average yield throughout; so that our country, which exported millions of bushels of this staple in the midst of our great civil war, has actually been importing for some months past, as she had scarcely done before since 1836-7.

ENRICHING THE SOIL BY TURNING UNDER PLANTS.

The practice of plowing plants under the soil to enrich it is not a new one, or one of doubtful expediency. It was practiced among the ancients, is continued to this time, and, under some circumstances, with most signal advantages. In cases where it is not convenient to keep much stock, the land may be brought to a high state of fertility by filling the soil with vegetable matter by plowing in plants of one kind or another, to become decomposed there. So of lands that it is desired to cultivate, and which lie on hills that are difficult of ascent, or are so far from the barn as to make carting manure too expensive. In many cases, too, with the aid of modern machinery, many farmers could cultivate more acres than they usually do, if they had the means ef manuring them well.

We take it that the fact is well established that this course may be pursued with profit. A question remains behind:—In what condition will the plants afford the greatest benefit to the soil,—green or dry? Will some of our intelligent correspondents tell us?

WOOL AND WOOLENS.

Since January, we have received regularly from Washington a neatly printed quarto pamphlet entitled "Monthly Report of the Director of the Bureau of Statistics, Treasury Department," Alex. Delmar, Director. It furnishes a large amount of information in relation to the trade and commerce of the country. From the Report for May we copy the following statement in relation to the value of the importations of Wool, Sheep, Goat's and Camel Hair and manufactures thereof, during the months of January, February, March, and April of the present year:—

	Jan.	Feb.	March	April
Raw and fleece	$284,055	$458,134	$621,025	$747,255
Cloths & Cassim'rs	1,069,991	908,250	683,147	456,142
Waste or Shoddy	65,946	68,398	53,092	23,075
Shawls	135,008	299,354	216,731	116,585
Blankets	13,956	4,102	2,956	1,296
Dress Goods	2,015,013	1,768,695	1,034,975	763,799
Manuf's not spec'fd	992,395	1,139,675	1,194,369	574,953
Total	4,576,364	4,646,608	3,806,295	2,683,105

Showing a grand total of $15,712,372 for the four months. From other tables it appears manufactures of cotton were imported to the amount of $12,941,009; of silk goods $6,202,-161. From which it may, perhaps, be inferred that our people are "bound to wear good clothes if they do not lay up a cent."

SHEEP SHEARING IN MAINE.

At the annual meeting of the North Kennebec Wool Growers' Association, in Waterville, June 4th, there was a show of sheep, a shearing festival, and a good time generally. We condense the accompanying tabular statement of the names of exhibitors, age and weight of animal, weight of fleece and length of staple of the differerent fleeces, from the *Maine Farmer*, who remarks: "An interesting scene it was, some fifteen of the most expert shearers in all the region, seated on the fresh, green grass, under the shade of trees, with coats off,

sleeves rolled up, and each of them on his knees holding his pet buck or ewe with one hand, while with the other he plied the sharp shears over the smooth, fat sides of the immense Cotswold, or followed the heavy folds of the neck of some Merino."

Class and Owner.	Live weight.	Age.	Weight fleece.		Staple.
Full Blood Merino Bucks.	lbs.	yrs.	lbs.	oz.	in.
Eph. Maxham, Waterville	134	2	20	8	3
Joshua Nye "	149	6	15	14	2½
" "	119½	4	10	10	2½
Elijah Blaisdell "	142	3	17	8	2½
Geo. E. Shores, "	118	3	14	1	3
Dr. N. R. Boutelle "	138	4	18		2½
P. W. Ayer, Freedom	124	3	17	8	3
Seth Wentworth, China	113	5	12	15	2½
C. K. Sawtelle, Waterville	99	2	12	15	2½
Grade Merino Bucks.					
Russell Freeman, Winslow	76½	2	11	4	3
Seth Wentworth, China	138	6	14	9	2½
Fred. B. Wing, Waterville	112	2	13	9	2½
Full Blood Merino Ewe.					
Eph. Maxham, Waterville	82½	4	9	14	2½
" " "	73	3	8	5	2½
" " "	51	1	8	9	2½
Cotswold Buck, (washed.)					
C. P. Church, Bradford	193½	5	8	8	8
Grade Cotswold Ewe, (cosset,)					
W. J. Morrill, Waterville	127	2	12	4	5

FLAVOR OF CHEESE.

In connection with our remarks last week upon this subject, we publish the following extracts from a circular issued by Mr. Weeks to the patrons of the Week's cheese factory in Verona, N. Y. Mr. W. is the secretary of the American Dairymen's Association. Its suggestions are applicable to private as well as to factory dairying.

1. Never, under any circumstances, send a can of milk to the factory that has not been strained. A tin strainer pail is best, but a clean, carefully scalded cloth, stretched upon a neat little frame, which may be placed directly over the can, will answer. This I deem all-important, and any one who will examine the contents of the strainer at any factory will be convinced of it.

2. See to it that the milking be performed in a cleanly manner, and never tolerate filthy habits in milkers. It is unjust to the purchaser and to the consumers of our cheese.

3. Pay more attention to the cans, especially to the seams, covers and faucets. In hot weather be particularly vigilant. A thorough rinsing at night, and a rinsing, washing, scalding and sunning in the morning, will suffice, though it is very desirable that in hot weather the cans and faucits be scoured with salt twice a week.

4. When it is possible, avoid the use of all wooden vessels. *Tin is the only fit article for pails, &c.* When wood is used, extra care must be employed in cleansing. Beware of freshly painted pails, for their use is dangerous.

5. See to it that when the cows are driven from the pasture, they be not chased by dogs, nor in any way hurried and heated.

6. Always have leaky cans promptly repaired.

7. In portions of the year, when milk is sent to the factory only once daily, always put the night's milk into the can (into two if you have them,) leave the cover off, set in a cool place, and stir the mass with a dipper several times during the evening."

WASTE OF FORCE IN VEGETATION.

There are many facts in vegetable growth that are wonderful and mysterious. A common pump will raise water some thirty feet with comparative ease, but with all our contrivances of air-chambers and complicated machinery, it is difficult to raise it seventy-five or a hundred feet. Yet how readily the sap "runs" to the topmost bough of the highest trees—though the perpendicular ascent may be from two to three, or even four hundred feet, as in the case of the Great Trees of California! What makes it go up?

The following article does not answer this question, but it states some curious facts and theories which we think will interest every one who has trained grape, hop, bean or pea vines. It is entitled, "On the Consumption of Force by Plants in Overcoming Gravitation," and was written by Thomas Meehan, Editor of the *Gardener's Monthly*, and published in the Proceedings of the Academy of Natural Sciences, Philadelphia.

Every one interested in Horticulture knows how uncertain is the successful cultivation of the grape in the United States. The vines usually flourish well for a few years, but in most instances become the prey of numerous diseases before they attain any very great age.

In remarkable contrast with this general failure is the fact that grape vines growing over trees are generally healthy and fruitful to a remarkable extent. Branches from unhealthy vines on trellises, when they can get to ramble over the twiggy branches of a neighboring tree, resume the health and vigor lost by the parent or main vine.

These facts have had numerous observers, and are generally admitted. They have been frequently discussed in Horticultural journals; but every theory hitherto brought forward has been refuted. For instance, it has been suggested that the partial shade afforded by the tree benefited the grape vine; but it is as perfect when growing over low bushes, on hot banks, exposed to hot and dry temperatures, as when luxuriating among the shady branches of the tallest trees. Again, it has been suggested that as the vine is supposed to like a dry soil, the roots of the tree tended to absorb superfluous moisture, and thus furnished the best conditions for the vine roots; but healthy vines are found on trees in impassable swamps; besides, the cases of branches from trellises before alluded to, answer this supposition. Some have thought that as the foreign vine, growing un-

der glass, thrives there so well, principally on account of humid atmosphere, the evaporation from the trees' foliage might benefit the vine growing over it; but it has been further observed that they grow as well over dead trees as over living ones; and so on, in like manner, every theory has been refuted, and the true reason unexplained.

I think Mr. Darwin's discovery of tendril motion will afford the key to this phenomenon, and enable us to form a new theory as to the origin and employment of force in vegetable growth.

Mr. Darwin has shown that the tendrils of plants are in continuous motion for a long time until they find something to cling to, when motion at once ceases. Motion is an attribute of vital force; and vital force, whatever be its origin, must be sustained by nutrition.

There are two forms of motion. The one we call growth, which is the motion of the cells individually; the other, in animals, we call muscular motion, is the movement of the cells collectively. This tendril motion, unnamed because until lately unknown, is analogous to animal muscular motion, in its being a collective movement of the parts.

In animals we know that nutrition will only supply a given amount of force, and that if muscular motion receives an undue proportion of this force, growth (cell motion) suffers. In common language, the over-run horse gains no flesh. On the other hand, the disuse of muscular power fattens the animal. If the same division of motion exists in plants, and Mr. Darwin's paper shows it does, it necessarily follows that if one form gets more than its due share, the healthful balance is destroyed—in other words, the force necessary for excessive tendril motion in the grape vine exhausts the nutritive powers of the plant to supply; growth suffers, and disease ensues.

To apply this principle to the case of unsuccessful grape culture, we find in no system of grape management is any provision made for arresting tendril motion,—but on the tree thousands of little twigs invite the tendrils at every turn. No motion is expended except for what we might almost term healthful exercise, —the balance is used in growth.

Observation on many species of climbing vines under similar circumstances confirms these views. The growth and general healthfulness of every kind of vine, is in exact proportion to the climbing facilities afforded it. The garden pea will furnish a ready means of testing this proposition. It will be found that difference in vigor, general healthfulness, and longevity, is strikingly in favor of those grown on twiggy branches. Peas unstaked, grow weakly, bear early and sparing, and die young. Honeysuckles ramble to great heights and have large luxuriant foliage on fine wire trellises, but when dangling to one straight stick they grow very little indeed. The most striking instance that came under my observation was in some *Wistaria sinensis* which had been trained to form self-supporting dwarf trees. The branches would only grow two or three feet in a season, but a few of the shoots in time bending over and reaching the ground, where they found a natural support, would grow thirty feet during a single season. The observations in this way were so uniform, and the materials being everywhere, any one can verify this without it being necessary for me to particularize further instances.

Every effort of nature is but an endeavor to accomplish an object. The history of a plant's life is a struggle with gravitation. The purpose of that struggle is with the Author of its existence, but its immediate object is to elevate itself from the earth. The force required for this is very great. In its young days, however, it goes on with vigor,—taking no thought, as it were, of to-morrow,—but, as it grows older, it becomes bowed down by the weight of its own accumulations; gravity tells on its wide-spreading branches, reminding it of the growing weakness. It then prepares itself for its final dissolution by producing fruit, which, fully accomplished, the struggle with gravitation ceases, and dust to dust returns.

The whole of this enormous motive force must, as we have seen, be derived from nutrition,—and the proper proportion due to each form of motion must be provided and paid to it, or deranged action be the inevitable consequence.

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.---NO. I.

Scenery---Soils---Tobacco---Corn.

The Connecticut River valley has had a reputation for fertility and beauty of scenery unrivalled perhaps by any other section of the New England States. By reason of this reputation I was prepared on coming to this place, to expect not only fertility and beauty, but a high grade of agricultural information and practice. I will not say that I have been altogether disappointed in these respects, for I have not had sufficient opportunity to make up a final verdict. I will, therefore, just record my impressions as to how things here strike a stranger.

Much as has been said respecting the varied beauties of the scenery of this section, only the past summer a noted traveller expressed surprise at the comparative low estimate of the attractions of this locality; when, according to his opinion, they were far greater than any he had ever met with in any or all of his travels abroad. Be this as it may, a person having a taste for such things cannot fail of finding localities of very great attraction and of greatly varied character.

This matter, however, I regret to say, does not occupy so prominent a place in the estimation of farmers as it ought. If the masses

could be brought to the cultivation of a taste for the beautiful in nature, what might we not be led to look for of beauty in the surroundings of their homes and possessions? Instead of seeing residences unsheltered by protecting trees; grounds unadorned by shrub or flower; fences dilapidated; farm implements laying promiscuously around; neglect enstamped on every side,—we should see homes that showed the unmistakable signs of cultivated taste, diligent care, and wise regard for all the *true* enjoyments of life. If the poet is correct in saying that "a thing of beauty is a joy forever," a development of a taste for it will not fail of future reward, but forever expand in the beautiful world of light, unmarred by the clogs of corroding care, and unincumbered with the infirmities of the flesh.

There is quite a diversity of soil even on the very banks of the river. Of that part of this town which borders on it, but little is subject to overflows during the greatest freshets. The *meadows*, as they are termed, are more or less flowed every spring, and some of them at other seasons of the year. These inundations add greatly to the productiveness of these meadows, so far as grass is concerned. So far as my observation extends,—from Springfield to Hartford,—they are not very good for grain or tobacco. I incline to think the water-level too near the surface, the soil too cold and compact. Then we have clay and sand, loam and sand—much more of the last than I was prepared to expect. This whole section seems to be made up of contrasts. Clay suitable for brick is found side by side with sand suitable to combine with the clay for the same purpose. I was struck with the productiveness of these sandy soils in grass, as compared with that of what *appear* to be the same soils in southern Massachusetts. The clays are not as desirable for general farm purposes as the sandy loams. Tobacco is never put on them, and grain does not do well. They are so compact that underdraining must be resorted to to bring them into good tillage condition. Draining, however, during these scarce times for labor is not entertained. No one thinks he can afford it.

The *treatment* these lands have been subject to has been suicidal. Immense tracts have been in past years cropped with grain—rye mostly—year after year, with little, and in most cases no manure. Distilleries were formerly in close proximity to each other here. They *stimulated* the farmer to run his land in grain by affording him a sure market and good prices. In this way the past generation robbed the present of their rightful legacy,—a description of robbery that deprives one of all chance of self defence. How to restore these lands to a profitable state, is now with some a very important question. I can scarcely see how it can be done with any prospect of profit to those who attempt it. It really seems as if they must be left to the recuperating influences of rest. If tobacco had not come into general culture here, it is not hard telling what would have become of very many farmers who, pursuing the *skinning* process, became more and more involved in debt each succeeding year. Since its introduction, debts have been paid, new buildings erected, old ones repaired and the general surroundings improved. It seemed to have been to all a great source of income. Its effects, however, on the general improvement of the farm are questionable. About all the available manure made upon the farm is husbanded for the growth of this crop.

The general farm management in this locality, excepting as modified by the cultivation of tobacco, is much the same as in most parts of New England. Where tobacco is not grown, however, more manure is applied to other crops, and consequently better yields of grain, vegetables, &c., are secured. Many farmers here plow about all they can find time to in the fall; especially their tobacco lands. Some sow these with rye, to turn under in the spring in time for setting their tobacco, thinking it pays well in increased production, which I think highly probable, as a large amount of vegetable matter is thus obtained from these highly manured fields, many of which have been used for several years for the same purpose. I have been shown fields on which this crop has been grown from ten to twenty years, without any perceptible decrease in the crop.

There is a feeling of delicacy, in commenting unfavorably upon the practices of others, especially respecting matters that people are very sensitive about. Almost every farmer considers his modes of doing farm work as good or better than those of any other man, and he regards a hint to the contrary as a personal insult. How to approach such people, hoping to do them good, is a very nice question to solve. I will venture however to chronicle my impressions, hoping that I may be forgiven, on the ground of good intentions, if not on that of useful criticism.

It strikes a stranger as being far behind the times for three men to go into a field, prepared for planting corn by furrowing with a plow both ways, with a wagon load of manure drawn by two yoke of oxen, and all three putting it into the hills, then each one tying on a pocket in front with corn in it, to drop and cover each for himself, leaving the team unemployed until the load is covered; then go for another load. I should not allude to this great waste of time and consequent expense, if this practice was not one of quite common occurrence here. When I first saw it, I recalled the labor saving processes and machinery employed at the West, and in other sections.

Any one at all familiar with corn planting, can but see that the practice I have alluded to is many years behind the times, as well as an extravagant waste. When a boy, I was expected to drop corn on manure as fast as three

and four men could cover with hoes, and did not consider it a hardship. A man can not put his hand into a pocket and drop each hill separately and cover, without a great loss of time.

The after culture of this crop is also very imperfectly attended to. Very few hoe their corn more than twice, if ever so foul with weeds. I have seen fields the past season where the weeds overtopped the corn, and almost all I saw were very weedy, insuring a bountiful crop for coming years. This neglect of clean culture is in part owing to a press of other work, especially from the imperative demands of the tobacco, which *must* be attended to, or great loss will be the result. How far a farmer is justified in planting more extensively than he can well care for during the growing season, I will leave for each to decide for himself; being content with my own conviction that there is no profit in it, but on the contrary a downright loss.

As regards the best method of management of corn after maturity, much diversity of opinion prevails all over the country. I believe, however, it is the most prevalent idea that it is the most profit to cut at the ground at the proper time for curing both corn and fodder and putting into shocks or stooks. The shocking is almost universally prevalent here, but neglected or deferred until the leaves of the fodder are about ruined before cutting. To avoid frost or storms, many cut and leave their corn upon the ground for weeks before setting it up, exposing it to great damage by dews and storms. When harvested, very little care is taken to secure the fodder from stormy weather, either by getting under cover or setting up. I have no doubt but that two-thirds of its value for stock is worse than lost by these careless methods. In some sections of New England the fodder from an acre of corn yielding fifty bushels to the acre, is considered equal to a ton and a half of hay, when as much care is taken to secure it in good order as in the case of hay. In such sections, the prevailing practice here would be regarded as the sure road to the pauper asylum. K. O.

East Windsor, Ct., 1867.

For the New England Farmer.

THE GARDEN IN JULY.

The garden this month will, if it has been well tended thus far, furnish a variety of fruits and vegetables to reward the labors of the gardener. During this month, increased attention is needed in keeping weeds, &c., in subjection; they *will* grow as fast, if not faster than other plants. The improved machines recently introduced will enable the farmer to perform his haying and other laborious farm work so much easier and more rapidly, that time for the proper care of the garden may be found by the diligent farmer. An hour or two in the morning, while the dew is on, is more profitably spent in the garden than in the hay field. Stir the soil and the weeds often with the hoe; apply liquid manure, just before rain, or after sun set, at the roots only of such plants as need stimulating, covering the watered surface with dry soil. Water newly set trees and grape vines, keeping the mulch moist. Liquid manure will swell fruit very fast when judiciously applied.

Blackberries.—Tie new shoots to stakes or trellises; shorten main stem and branches to help growth of fruit buds, and pull up all canes not wanted for multiplying.

Celery.—Transplant till the last of the month; hoe and cultivate often. The excellence of the crop depends largely upon rapid growth and proper bedding and blanching.

Currants.—If particularly large specimens are desired, pinch off the ends of the shoots just beyond the bunches, and thin and give plenty of water or liquid manure. They will begin to ripen during the month; when fully ripe pick for jelly, preserves and canning. Prune and cut out old canes as soon as the fruit is gathered. The currant worm and other insects should be looked after and destroyed by all practicable means. Powdered hellebore is recommended to destroy the worm, &c.

Gooseberries.—Thin out the fruit where needed early in the month, and use the berries removed for sauce, pies, &c. Dust with sulphur on the first signs of mildew.

Grapes will need thinning where more than two or three bunches grow on a shoot. Treat signs of mildew with sulphur. Pinch off superfluous shoots to two or three leaves; also fruit branches two leaves beyond the last bunch. Attention in summer pruning, watering, &c., will be repaid with less labor in fall pruning, better wood, and superior fruit; insuring better fruit buds for next season.

Herbs.—Cut when in blossom; tie in small bunches or spread and dry in the shade, and save in papers or boxes, which will hold their aroma.

Melons need the same culture that is given cucumbers. To hasten maturity, place a board or flat stone under specimens.

Potatoes.—Early planted will do to dig for use; clear off and sow to turnips, spinach, or other late crops.

Raspberries.—As soon as the fruit is off, cut down old canes and thin out new ones. Three or four canes to a stool is sufficient; keep well hoed without disturbing the roots.

Seeds.—Some vegetables and plants will be maturing their seeds; save only the best, and that from the most perfect specimens, and from near the centre of the plant or vine. The earliest should be saved, as it tends to increase earliness; dry all, and put in a dry cool place in boxes or papers, labelled with variety and year of growth.

Strawberries.—After bearing is over, weed the beds and cut the runners where not wanted for new plants. Old beds may be renewed by first spreading on fine manure, then

spading in alternate strips, three feet wide, plants and all, and fining the surface well. The runners from the alternate strips left unspaded, will spread on to the newly dug spaces and soon stock them sufficiently. The old plants may be subsequently hoed up, and the spaces occupied used for paths or walks.

W. H. WHITE.

South Windsor, Ct., June, 1867.

For the New England Farmer.

TENANT FARMING, AGAIN.

In the FARMER for March 9, Mr. J. G. Hubbard offers a farm "on a lease on valuation, and all taxes paid," and states that he does so as "a test to anonymous contributors, who are pleased to air their theories in the public journals, from time to time, and to intimate to them that to be of value their suggestions must be practical, and they should be able to find those that will practice them."

Now I submit that a fair reading and construction of the article referred to by Mr. Hubbard, does not warrant the charge that its suggestions are not practical, for it is expressly stated, that "probably one of the best systems of tenant farming in this country, is that adopted on the Wadsworth farms in Western New York;" and that "here is a large number of farms, all worked under the direction of an able and competent manager, in a way that tends to the present and permanent advantage of the owner, while it makes a permanent and profitable business for all the good farmers that work them." To which is also added a brief account of the kind of farming and course of cropping pursued, showing a system of management that secures good tenants, and keeps the land in good condition, while these farms don't "have to go a begging."

Lest Mr. Hubbard should try to throw this aside as coming from an "anonymous contributor," or, were I to sign my name, as coming from a stranger, I will copy a short extract from the Memorial of the late Gen. James S. Wadsworth, delivered before the New York State Agricultural Society, at the close of its annual exhibition at Rochester, Sept. 23, 1864, by Lewis F. Allen of Buffalo, and published in the Transactions for 1864, page 71.

"Probably no agricultural property in the country, so extensive in domain, has been arranged into a better division of individual farms, and their husbandry directed with more systematic economy on the part of the landlords, than those of the Wadsworths. The soils were applied to the crops most congenial to their natures, and which yielded most profit on their outlay; and as proof that the mutual interests of landlord and tenant were thoroughly studied, I understand that quite three-fourths in number of the tenants now on the farms are those, and the descendants of those who occupied them in the lifetime of the elder Wadsworths." It is also stated that "the moral and pecuniary condition of the inhabitants dwelling on the Wadsworth farms is as high, and the line of husbandry has been as good, in the average, as among the smaller farmers who hold their lands in fee—and the general agriculture of Livingston county is of no mean order."

Undoubtedly the editors of the FARMER have read this memorial of Gen. Wadsworth, who, after having three horses shot under him, was mortally wounded in the sanguinary battle of the Wilderness; and have also heard of the Wadsworth farms and farming in the noted fertile valley of the Genesee, and can assure Mr. H. of the general correctness of the account here given.

Now, in all candor, is not this practice of letting the Wadsworth farms "tangible and practicable," as any farming in Western New York, and does it not show that the account in the other article was something more than a mere "airing of theories," and that there is no trouble in finding many who will and do practice the suggestions there offered?

There can be little need of repeating facts and quotations to show that the statements in regard to tenant farming in England are equally true; and that being on a much more extensive scale is, if possible, still less open to the charge of being impracticable. Should such proofs be required, I may refer Mr. H. to "Observations on English Husbandry," by Hon. Henry F. French, Exeter, N. H., in the Patent Office Report for 1860, page 140, and also to other writers on English farming.

But perhaps Mr. Hubbard may say, "all this don't meet my case. I ask for a man to take my farm according to the suggestions in your article; that is the kind of proof I wish you to bring." Well, then, let us see about this; you offer your farm on a lease at 6 per cent., per annum, on valuation, and all taxes. Now if Mr. H. will read my article again he will see that there is nothing said in regard to the amount or price of rent, or whether it is to be fixed by valuation or in some other way. This, both here and in England, is always a matter of agreement between the parties. The valuations relate solely to the condition of the farm,—to crops on the ground, the labor done and manure applied by the outgoing tenant, or occupant. So it will be seen, that friend H. has made one impracticable condition, not warranted by the article objected to.

Next, Mr. Hubbard wants 6 per cent. on the value of his farm, and all taxes paid. Six per cent., I believe is, or was, lawful interest in Massachusetts, so he wants lawful interest and taxes besides. This would be better than money at interest, as then the taxes must be paid by the lender. And then as full interest is wanted, he seems to forget that there are few if any old sections, where capital is plenty, in which land will rent for the interest of what it will sell for. The greater safety and certainty of the investment, and the general rise in real estate, leads to investing money in land at a lower rate of interest, or for a lower income, than will be accepted in any other way. Hence, rents seldom range as high

as lawful interest; they do not here, nor do they in any of the older farming sections in which I am acquainted. On the Wadsworth farms the rent is calculated to average about five per cent. In England, in many cases, it is not over two per cent. Here, then, Mr. H. makes another impracticable condition. He asks more than his land can reasonably be expected to rent for. If offered for a fair price, he would doubtless soon find a tenant. At least, that is always the case here, where, although there are a good many farms let, either, for a money rent or a share of the crops, the demand for farms is always greater than the supply.

But Mr. Hubbard seems to have in view a still stronger test of the faith of anonymous contributors; as he intimates that such contributors should come and take his farm. To this I answer, for myself only, by saying, no sir, I thank you; I have a good farm of my own. But I may take the liberty to make a brief statement here of my own personal experience in respect to the "theory" of renting farms, which I have presumed to "air in the public journals." Beginning life with nothing but my hands, I first worked out, then took land, both for money rent and on shares, until, having got some money ahead, I bought a small place. This, in time, I was able to sell and buy my present farm, which answers my purpose very well. Having thus managed to get a get a good farm, I have a good deal of sympathy for those that, under similar circumstances, are trying to get one, also. Not being able to do much hard work myself, I have been obliged to take some course to get my farm worked, and I have therefore given some thought, reading and observation, to this subject.

The article criticised by Mr. Hubbard aimed to give impartial directions and suggestions for the benefit of both landlord and tenant. That my remarks might be improved, I have no doubt. I could not expect to point out the very best way, or that applicable under all circumstances, but only to add my mite to the fund of knowledge that is intended to improve tenant farming, as well as other branches of agriculture.

But enough is written to show that my remarks are not open to the charge of being theoretical and not practical, because I do not accept or comply with Mr. Hubbard's "test," or because I do not furnish him with a tenant, on the hard conditions offered. Were it even true that he could not let it on any terms, it would not prove that such is the case with all farms. Or if tenant farming does not prove satisfactory in "Derry, N. H.," it may, by better management, or on better land, do better in other places.

I have frequently heard men strenuously contend that some particular course cannot be followed, or some operation performed, when I knew that the same things were in successful practice in other places. But not coming within the sphere of their experience or observation, and not fully understanding the process or course of proceeding, such men find it easier to doubt and dispute, than to read and investigate. Now I hope this is not the case with friend H., but that instead of insisting on impracticable tests he will investigate and find out the reason why tenant farming is not as practicable there as in other places. Then surely Yankee ingenuity will for once be unaccountably at fault, if a remedy is not applied.

Western N. Y., 1867. F.

For the New England Farmer.

THE BAROMETER FOR FARMERS.

Having had some experience with this instrument as a weather indicator, I desire to urge its more general adoption, as an agricultural implement. Many of our larger farmers use it already, and consider the money thus expended, a good investment; indeed, I never knew an instance where an intelligent observer would be willing to part with his, at several times its cost, if another could not be obtained. There has been many inferior things vended about the country as barometers, which are not properly barometers at all. For instance, a hygrometer was extensively sold, a year or two ago, as a genuine barometer; then there have been cheap, improperly made instruments put into the market. Of course, when such "traps" are sold the buyer is "sold" also. Many minds have been prejudiced by these means; others from an utter aversion to every thing scientific.

Nevertheless, it is an established fact,—established by the millions of recorded observations both in this country and in Europe—that weather changes are preceded by increased, or diminished atmospheric pressure. This the barometer faithfully indicates, giving warning from two to twenty-four hours in advance. It is vain at this late day, to argue that no dependence can be put on its indications. It is well known that it is considered indispensable on the seas, and that there it is most implicitly relied on. A sea captain would as soon think of sailing without his chart or compass, almost, as without his barometer. But for it, many a "gallant ship" would go down, which now outrides the storm, because "forewarned is forearmed"—a maxim as applicable on the land, as on the water.

On the farm, its principal value is in the saving of crops. Dr. Henry, of the Smithsonian Institute, estimates that five per cent. on all crops might be saved by the universal use of this appliance by farmers, amounting to eigty millions of dollars annually. Much valuable time is often wasted, as every farmer knows, especially in the haying season, from a lack of some means of foretelling whether the day will prove favorable or not; at such times a good barometer affords great aid, often sav-

ing its entire cost in a short time. I have used the barometer for meteorological purposes, for the past ten years, and have never regretted its purchase. Besides its value in calculating the weather, the observations of its daily and hourly changes is a source of much pleasure and profit. It awakens curiosity, stimulates thought, and leads the mind to a closer contemplation of those great natural laws, whereby even the universe itself is maintained. This wonderful little tube of mercury, by its mysterious rising and falling, conveys to you, sitting snugly by your fire, a visible indication of the mighty movement and sweep of far-off air currents, that are perhaps marking the earth and seas with devastation; or which, in the farther depths of this upper ocean, are warring with other forces, as Titonic as themselves. I have come to regard mine as a necessity. True, we might live without clocks or watches, thermometers or spectacles, kerosene lamps or gas, newspapers or books; but in this nineteenth century, willfully to neglect any of the means which the goodness of the Creator has placed in our hands for making ourselves wiser and better, and more comfortable, is a sin.

In selecting an instrument, see that the tube and cistern are of good size, and that the whole is portable, or may be easily moved. It is desirable, also, that it be provided with a *vernier*, by which variations may be read to the hundredth of an inch. I have used several different barometers, and I know of none of moderate cost that is so generally well made and reliable as the "Woodruff." This instrument is perfectly portable, has a good metalic scale and *vernier*, is tastefully gotten up, and take it all in all, I believe there is no other of a similar cost that will compare with it. I have no pecuniary interest in this or any other barometer, but desire simply to commend the best. If any of your numerous readers can recommend a better one for general use, they will convey a favor on all who are interested in this neglected topic, by naming it.

June, 1867. AN OLD CONTRIBUTOR.

For the New England Farmer.

WILL IT PAY TO BE A SLICK FARMER?

For the following notes of the discussion of this subject by the Irasburg Farmers' Club, we are indebted to Z. E. Jameson, secretary.

E. P. Church was aware that a person is subject to criticism if his theory and practice do not correspond. Still he believes it pays to be a slick farmer. The door-yards attract our attention whenever we pass a farm. Some are filled with decaying sleds, wheels, harnesses, ox-yokes, logs partly chopped and piles of chip dirt. Other yards are swept clean and a beautiful green turf covers the earth; all rubbish being either destroyed or packed away in in the wood-shed or yard.

Sometimes deep dead-furrows in the middle of fields, or high ridges about the edges are left so that the mowing-machine and horse-rake cannot work to advantage. At the second plowing, he sometimes begins in the middle and turns two first furrows into the dead furrow, and sometimes has carted the outside furrow to the middle. Where wet and dry land join there is frequently quite an abrupt descent. In plowing the dry ground, I begin at the bottom of the descent and with plow and shovel work it down so as to form a gradual slope, rather than a steep, break-neck place. It pays to cut bushes on low land, and on side of roads and fences, and our permanent road fences should be made neat and tidy. Our barn doors should be well hung and easily see cured. Tools should not be exposed to weather as the iron rusts and wood rots, and when wanted for use are ready to break. I once had a new cart made for $28, I used it 20 years and sold it for $28. Tools that are sheltered when not in use last a lifetime. Now if we keep the roadsides free from bushes and rubbish, have our fences in order, and things in order about the buildings, there will be such an attractive appearance that our property would sell for a much higher price than it would if we take the opposite course.

A. Jameson said it pays to have things in order and well cared for, but he once knew a man who he thought was too slick for profit. He would use his jack-knife in cutting the grass around stone heaps; his hay-mow was trimmed down square; his hoes were brought to the house every night and wiped dry; and he would not burn a stick of crooked wood in his fire-place.

G. B. Brewster once worked seven years for a man who was nearly blind, yet was very particular and knew how work ought to be done, and would have it done right. My ideas of slick farming I got from him. He kept 600 sheep, and his barn and sheds were well arranged for their accommodation. The rubbish from the roadsides was taken into the fields and burned. The yard back of the house was equal in neatness and order to that in front. I think it pays well to spend a few days in the year in clearing up.

N. F. Stiles thinks a man may be a thorough farmer yet not a slick one. A farmer who puts his work over the road double quick can't stop to be slick; it won't pay.

Wm. L. Jameson had not been able to do all his work as he could desire. Many things which are left undone and which he does not think will pay to hire done, gall me as much as they do any one. In a new country the people are necessarily busy getting a living, and have not time to do unprofitable work; but as the country gets older and the farmers richer, we witness an improvement. He knew many good farmers who are making money. They take care of farm tools, fences and buildings, yet they are not what are called slick farmers.

Had seen cases of negligence in the care of tools, &c., which were not consistent with good farming. Now while it will pay to be a good farmer, it may not bring in the dollars to be a slick farmer.

Mr. Church asked, is the almighty dollar the only thing we should live for? Do not comfort, beauty and cheerful appearance pay us well for slicking up? When friends come to visit us, does it not pay in enjoyment to walk with them about a slick farm. A good farmer is a slick farmer.

Mr. B. knew a man who probably wastes $500 or $1000 a year by careless management. Everything is at loose ends. At one time he had about twenty barrels of tallow. The hogs got to it and destroyed a part of it. At another time he went with friends to see a field of wheat, and found 300 or 400 sheep in it. There was nothing secure and tidy in his management, for he was always in a hurry, doing great business with constant waste and carelessness.

Z. E. J. thought that to be a slick farmer all work must be done promptly and systematically. The farmer who has not sufficient help finds it necessary to begin many jobs and defer finishing them until some future time. If many jobs are thus left, things get at loose ends rapidly. There are some things that can be postponed without serious damage; others cannot be left without loss. Only half my year's supply of wood is in the shed; the rest lays in the door-yard. We sometimes leave the hoeing, to shear sheep or to work on the roads; or haying, to cut grain. The farmer often acts as carpenter, joiner, painter, glazier, and, if handy, something may be thus saved. Will it pay to hire all this done for the sake of having it appear slick? I think if a man is in debt and trying to pay up a mortgage, slick farming will not bring money into his pocket. Slick farming improves the looks of a farm more than it increases the crops.

Wm. L. Johnson understood this question to mean, will it pay, after a man is a thoroughgoing farmer, to put on the polish? The extreme slovenly cases are not the standard of comparison.

F. S. Brown thinks it is profitable to have stumps and stones taken from the tillage land, and all useless, refuse matter and rubbish slicked up about the house and barn.

For the New England Farmer.

NEAT STOCK IMPROVEMENT.

In consequence of the agitation of the subject at our Farmers' Lyceum, the increased reading of agricultural papers, and observations at annual Fairs, the beginnings of improvement in this department are manifest in this vicinity.

Some two years ago, a pure-bred two-year old Durham bull was obtained from abroad, but there being no pure-bred cows to match with him, none but *grade* stock was the result, until a pure bred cow was brought from Massachusetts. She brought a bull calf, which was sold at five months old for $125, to be kept in the neighborhood. She recently dropped a heifer calf, which was valued at $150, but unfortunately it got drowned in a mud-puddle the first night! The owner went immediately to Massachusetts and purchased a cow and calf and a bull, being determined to give the breed a fair trial on our soil and hills.

Nearly two years ago, a man in the opposite part of the town got some Alderney calves, also from Massachusetts, and is intending to give that breed a hearing.

Another man, five years ago, obtained from the same State a heifer calf, half Alderney and half Ayershire. She proves to make a superior family cow, valued at $200.

Last season three pure bred Ayrshires—one bull and two heifers—were brought from New York and Connecticut. The bull, a yearling, served about eighty cows, during the year, —most of them, so called *natives*—with a few grade Devons and grade Durhams. Those calves that have already made their appearance give good satisfaction, and are no discredit to their sire. They are well built, of good size, and remarkably smart. As they seem to understand from birth that they are to be "raised," they take to drinking and eating *instinctively*. I have four of them; three of which drank the first time they were told to, and the other required but little coaxing with the fingers. My neighbor, across the way, is also raising four, and says he never had any calves that made so little trouble, or did so well; and he has raised several each year for a long time.

To encourage others, in other localities, to make some effort for stock improvement, I will say that the service of the bull amounted to his first cost, the first year; that he has grown quite enough to pay for his keeping, and consequently that there is yet no loss. Although I offered a present of ten dollars to any man in the neighborhood, who would get one of this breed, no one would risk it. I therefore risked it myself, though without suitable conveniences; but I do not regret it, believing now more than ever that it will prove for the public good, and a paying investment.

One thing is certain. Very little, if any *improvement* of the "natives" can be expected without considerable *effort;* and some *one* in every place must begin. Judging from my little experience, there is but small chance for pecuniary loss, even if a *tall* price is paid for the thorough-breds to start with. But rather than no beginning, I would say begin with half-breds, which will cost much less.

The above having been written several weeks ago, and not forwarded, by being mislaid, I am now able to add that several of the half-blood Ayershire bull calves that have been *fattened* attained a plumpness and weight, at

four or five weeks old, very commendatory to the breed, ranging from 150 to over 200 pounds.

There are a few *yearling* half-bloods, sired by a bull from W. Birney's herd, that are very "likely;" one man having two of them, a bull and heifer that run together last fall, and the heifer is to "come in" the fore part of August. The "Birney" bull became imbecile or inefficient very soon after he was obtained. Without any known cause, his sheath became inflamed, and after a few weeks yard and sheath grew together, so as to prevent his usefulness, and he was sold to go to Brighton for beef. Who ever knew a like case? Bos.

Randolph, Vt., June, 1867.

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.---No. II.

Haying---Raising Sorghum.

In securing the hay crop, the mowing machine and horse rake are in general use in this valley, and a very few tedders, as those that have been introduced soon get out of order. This is a very serious objection to all that I have as yet seen. More durable machines must be got up in order to secure their general introduction. It will never do for a farmer to depend upon any machine that is likely to fail him at the time most needed. The Buckeye mower is the favorite, although it has several competitors that seem to be gaining favor of late. The Hubbard and Monitor being the most prominent. I have been quite sanguine that important improvements would be made in mowers, and my expectations bid fair to be realized. A machine was tried late last season that appears to have distanced all rival competitors, if I can credit reports that reach me from the scene of its operations. It is invented by Mr. Perry, the town clerk of Kingston, R. I., and is to be manufactured by Ames & Co., of Boston. I will not specify its professed merits, as I have no doubt that will be faithfully attended to by those interested in its introduction.

I have not seen in all this region a hay cap in use. This was really astonishing to me, as I had been accustomed to see them in so common use in Massachusetts. For the past five or six years the expense of material has been a serious obstacle to their more general use in all parts of our country.

Sorghum has to some extent been cultivated in this vicinity. It appears to be gaining favor with those who have grown it. Some are very sanguine of success,—having substituted it for tobacco. When it gets an early start in the spring, it is comparatively secure from frost; failing of this, frost is quite sure to injure it. A sample sent me, made from frosted cane, is a very poor substitute for molasses. Its color is bad, and its flavor still worse. Another sample, from that not frozen, was very good in color and flavor. It was not, however, boiled sufficiently to give it as heavy body as most would desire. The yield has been about two hundred gallons to the acre, in some cases even three hundred—do not think it is usually so productive. The leaves are stripped from the stalk for feeding cattle; said to be good for that purpose. Mills for grinding it, and pans for evaporating the syrup are manufactured in Hartford, which are said to be the best in use.

Much experience, I think, will be necessary to enable the cultivator to determine the proper time to plant and gather this crop, and the manufacturer to make a proper use of it when it comes into his hands. I make these suggestions because I have seen sorghum syrup at the west, that in my judgment was equal to syrup of any kind I ever tasted. I cannot see any good reasons why it should not succeed here as well as there. It will grow anywhere that corn will. Sandy loam is considered the best soil for it, as it does not yield so much saccharine matter when grown on clay soils.

One-half of the syrup, or fifty cents a gallon, is the present rate for manufacturing, and is a good business while it lasts. These charges cannot of course continue if the crop is extensively produced. It readily amalgamates with both corn and broom corn. This impairs its value materially. It should not be planted near either of them. I hope soon to see our New England farmers producing their own sweetening. There is no good reason why they should not. The beet, if not the sorghum, can be raised successfully, and of superior quality to the European for sugar.

East Windsor, Ct., 1867. K. O.

THE PROPER TIME AND MODE FOR CUTTING FLOWERS.

Never cut flowers during the intense sunshine, nor keep them exposed to the sun or wind; do not collect them in large bundles, nor tie them tightly together, as this hastens their decay. Do not pull them, but cut them cleanly off the plant with a sharp knife, not with a pair of scissors. When taken indoors, place them in the shade, and reduce them to the required length of stock with a sharp knife, by which means the tubes through which they draw up the water are left open, and the water is permitted to ascend freely, whereas if the stems are bruised or lacerated, these pores are closed up. Use pure water to set them in, or pure white sand in a state of saturation, sticking the ends of the stalk in it, but not in a crowded manner. If in water alone, it ought to be changed daily, and a thin slice should be cut off the ends of the stalks at every change of water. Water about milk-warm, or containing a small quantity of camphor dissolved in spirits of wine, will often revive flowers that have begun to fade. Place a glass shade over them during the night, or indeed at all such

times as they are not purposely exhibited. Shade them from very bright sunshine, and when uncovered, set them where they may not be exposed to a draught of air. A cool temperature during summer is favorable for them, and the removal of the slightest symptoms of decay is necessary. When taken to a distance, carry them in a shallow air-tight tin case, or cover them with paper to exclude them from air and light. Charcoal saturated with water is also a good preservative for sticking them in, and the thinner they are kept the better.

TREE BORERS.

The borer is the popular name given to the *larvæ*, of several kinds of beetles; that is, bugs with wings and hard shells. The larvæ are the young of these beetles, in the form of worms, and in this period of infancy they pass most of their lives in eating, growing rapidly, and usually cast off their skins repeatedly.

Their *second* period is called the *pupa* or cocoon state, in which they sleep while Nature is preparing the wings, legs, antennæ, and other paraphernalia of the perfect beetle.

From this second period they enter upon their last or adult state, do not increase in size, and are devoted to a continuation of their kind. This period lasts only a short time, for most insects die immediately after their eggs are laid.

It is in the *larva* condition that they are *wood-eaters*, or borers. Our forests and orchards are more or less subject to their attacks, especially after the trees have passed their prime.

These borers, of one kind and another, infest apple trees, the quince, cherry, mountain ash, oaks, white ash, locust, and some others, and their depredations are often very destructive. The locust tree is preyed upon by three different kinds of borers. Splendid groups of the locust are frequently utterly ruined, and majestic oaks are half denuded by them in a single season. The borer enters a small branch at some convenient point, cutting it half off in so doing, and then passes along through its centre, or pith, towards the end of the branch. Now note the instinct of these little animals. They do not pass in towards the body of the tree, but outwardly, so that a strong puff of wind breaks the branch, which falls lightly to the ground, into which the worm goes to pass through the next transformation!

By taking up one of these broken branches and carefully following his tracks, the worm may easily be found. He certainly has improved a delightful mode of descending from the brawny arms of tall oaks to reach the ground.

The apple tree borer is the larva of the striped saperda, (*saperda bivittati*,) which is represented in the following cut.

This is the insect in its perfect or beetle state.

This figure shows the size of the insect. The upper part of the body is marked by two longitudinal white stripes, among others of a light brown. The face, antennæ or feelers, and under side of the body and legs are white.

This beetle comes forth from the tree in June, in the night, flying from tree to tree for food or companions, resting in the daytime among the leaves of the tree on which it feeds. In June, July, and sometimes in August, it deposits its eggs on the bark of the tree, at or near the ground.

Knowing this habit, many of these eggs may be destroyed by scraping around the base of the tree, and washing it with strong soap suds, during the last week in August.

The larvæ, or young borers, from these eggs are fleshy, round, whitish grubs, without legs or wings. They eat through the bark and remain there the first winter, marking their entrances by a little pyramid of borings, which betrays their hiding places, in which they can be easily found and destroyed. The next season they penetrate the wood, throwing out dust, or cuttings like saw-dust, by which they may be traced; generally ascending as they proceed and boring deeper into the tree. It becomes a full grown, borer as here represented.

The third season, nearly two years from its

entrance, it approaches the surface, where it undergoes its final transformation, becomes a beetle and leaves the tree. This borer sometimes enters the tree several feet above the ground, and occasionally enters the limbs near the stem.

Their presence may be ascertained by their cuttings, or dust, and the hole where this has

been cast out discerned by a little practice and care. When found, insert a wire with a very small point turned up on the end, by which the invader may be drawn out and killed.

DOCTORING HORSES.

There are certain practices with horses that are sick, which are popular, certainly, but are just as certainly not only unfeeling but absolutely cruel. In the first place, the probability is that not more than one horse in ten would be sick in the whole course of his life, unless through some carelessness, some want of knowledge, or some cruelty of man. And yet, when sick, how often it is that some terrible dose is administered, such as a pint of gin or rum, a half pint of castor oil in spirits of turpentine, or a tremendous "ball of aloes," to say nothing of the potent caustics, such as bichloride of mercury, arsenic, nitrate of silver, sulphate of copper, &c., &c.

"The horse's body," it is said, "does not quickly respond to opening medicine, but the action, once elicited, is not invariably easy to command. The animal's life is frequently a prey to a potent purgative. The veterinarian knows that the different creatures vary much in their capacity of swallowing amounts of aloes; that the dose which will not move one quadruped may destroy the inhabitant of the next stall. One creature will imbibe two ounces of the drug without marked effect, another will be shaken by the action of less than half an ounce of the same preparation."

This practice is all wrong, and should never be allowed by owners of horses. There can be no doubt that many valuable animals are lost by such desperate prescriptions.

Among the first evils practiced is that of using the horse too soon. Few of them are now permitted to grow until their sinews and muscles are matured. A frequent, but light and gentle use of young horses is undoubtedly good for them; but one fatigue, or strain, may affect their whole life. Too often the impatience of gain seizes the colt and subjects him to long travel or hard labor, which brings on one of the countless diseases or lamenesses to which he is liable, and from which he never fully recovers.

Because the horse *can* endure, and *will* patiently endure, a vast amount of hard labor, neglect and even cruel treatment, only a few persons reflect upon the marvellous delicacy of his construction. If they would study this more, they would neglect, or over-drive, or overload the animals less.

Half or more of all our horses are mean in spirit and form. They come from old and diseased animals to begin with; animals loaded with quarter-cracks, spavin, bots, rheumatism, ring-bone, founder, grease, string-halt, and forty other things, and with these they possess some other faults, which makes them anything but safe and agreeable,—such as stumbling, running, and shying, though the latter may be occasioned by the unnecessary and senseless use of blinders. It is time a reformation were commenced.

From Chambers' Journal.

SUMMER IDLENESS.

Under a "roof of pine,"
To hear the ringdove brood,
With the sorrow of long past,
Thrilling the listening wood;
Deep 'mid the clustering firs,
Where the nightingale sings all day,
To hide in the darkness sweet,
Where the sunbeam finds no way.

To ramble from field to field,
Where the poppy is all on flame,
All but the little black coal
At its core, that's still the same;
And where the "speedwell" blue
Cheers with its two kind words,
And the wild rose burns with a blush
At the flattery of the birds.

To bask on a grassy cliff,
Lazily watching the sail,
The blue plains of the deeper sea,
And the shallows emerald pale;
The breezes' rippling track,
And the sea-birds flickering white
Athwart the rosy cloud,
And under the golden light.

In the haycock sweet and dry,
To lazily nestle down,
When half the field is grey and shorn,
And half the field waves brown;
'Mid the clumps of purple thyme,
When the evening sky is red,
To lie and rest on the flowers
One's Epicurean head.

Or, better, amid the corn,
To turn on one's lazy back,
And see the lark upborn
Over the drifting wrack;
To hear the field-mouse run
To its nest in the swinging stalk;
And see the timorous hare
Limp over the hedge-side walk.

Such are the summer joys
That Epicureans love;
Men with no morrow to heed,
Heeding no cloud above:
Grasshopper-men, that sing
Their little summer through,
And when the winter comes,
Hide from the frost and dew.

Happy the man whose heart
Is granite against Time's frost,
Whose summer of calm content
In autumn 's never lost;
Who, when care comes with clouds
That gather from east and west,
Has still a changeless heart,
And sunshine in his breast.

LETTER FROM THE FARM.

Concord, July 3, 1867.

Gents:—In a hurried journey through, a portion of some twenty towns in this State and New Hampshire, I have been greatly gratified with the appearance of the crops. As I travelled by horse-power, I had opportunity to observe, make calls and inquiries as I went along; and, by the way, this is the manner in which farmers should travel, unless abroad on mere business matters. A life that gains little or nothing *by observation*, is a monotonous and dull one. I scarcely ever travel a day among farmers, or pass over a well conducted farm without seeing some example which I intend to copy, or hearing some opinion or suggestion which I mean to adopt. And now our homestead bears evidence on nearly every part of it, of the opinions and practices of *other* minds.

The bountiful rains with which we have been favored, seem at last to have overcome the blighting effects of a *three years' drought*, and to have enriched and stimulated the power of the soil into new action. Everywhere it has "blossomed as a rose." The delightful fragrance of wild grape and clover blossoms make the air redolent with sweets. It is the greatest *clover year* perhaps ever known. The pastures are delightfully green and inviting, so that brimming pails and sweet butter are no longer myths. The "cattle upon a thousand hills" rejoice, and it was not difficult to imagine that the hills themselves might clap their hands in joy.

I had just been reading a book describing the customs and conditions of life in Asia Minor and Syria. Its descriptions were fresh in my recollection, and laid out before me as a map, as I journeyed along; and the contrasts between that life and this which I heard, felt and saw before me, filled my mind with the most profound gratitude. In the midst of *my* glowing world, I contrasted our condition with theirs,—our laws, general education, the blessings flowing from science and art, and their wonderful march onward, the comfort and elegance of our dwellings, the intelligence and refinement of women, the toleration of opinion in politics and religion, prevalence of books, and all that dignifies and ennobles our natures.

There is, indeed, a great gulf between our condition and theirs, which would require centuries of progress to level up. And yet, they have a land of unsurpassed beauty and fertility, and had the "gospel preached unto them" ages before we did. No substantial progress can be secured so long as women are considered inferior to man and treated as such,—so long as the harem and polygamy exist. With these contrasts in my mind, was it strange that the birds and the brooks sang cheerfully to my ear, that the air was fragrant with the perfume of flowers, and that our rough New England valleys and hills were easily transformed into a paradise?

With the exception of the apple and pear, all the crops appear well. These seem to have disappeared as by magic. The trees blossomed well, the fruit set as usual, but soon fell off, so that there is comparatively little left of either of these fine fruits. Still, there are some left, and being few they will be likely to be large, and I hope fair.

Peach trees are well filled. Even those with only here and there a straggling living branch, with a few sickly looking leaves, have a few fruit peaches on them. Thanks for the promise once more of a crop of this delicious and wholesome fruit.

Corn, potatoes, rye, barley and oats, look finely. I do not recollect of seeing a field of wheat.

Strawberries are more abundant, I believe, than ever before. I regaled myself on a dish of perfectly-ripened wild ones, which brought back childhood days vividly.

Monday morning, July 1st, the haymakers were abroad early. The merry click of the mowing machine, the graceful and athletic swing of the hand mower, and the white shirts that dotted the fields, were attractive and pleasant. On fair land, I found the grass everywhere good — more than an average crop I should think. And yet, with these fair prospects, farmers told me that good hay will be worth $20 per ton in the barn, as soon as it is placed there, where the whole community is made up of farmers! They say there is no *old* hay left—scarcely five tons in a town.

The Use of Hay Caps.

But for the high price of cotton cloth, hay caps would be in common use. The opinion now is quite general that their use is highly economical. I believe that if we knew the weather would be fair, it would be economy

to cover hay with caps. Experience and careful observation for twenty years has established this belief in my mind. I have often made experiments on the same lot of grass, covering a portion and leaving a portion uncovered. This has been done when the weather has continued fair and when showers and storms have succeeded; in the latter cases, no one doubts, I believe, the utility and the economy of their use. But in fair weather, many persons are of the opinion that they are of little or no benefit.

If the cap were employed merely to keep the hay from getting wet, this reasoning would be correct; but this is only a small part of the good effect which it performs. It not only keeps off the dews and rain water, but prevents the evaporation of the aroma of the hay while in cock; keeping it moist with its own juices, and inducing a *sweating process*, which improves its quality by keeping the woody fibre softer and more palatable and nutritious. It undergoes a *cooking* process, which cures the hay so that it requires but very little exposure to the sun afterwards.

Cut Grass Early.

In connection with this, I desire to suggest again the cutting of grass *early*. In the blades and stems of the young grasses there is much sugar and starch, which as they grow up are gradually changed into woody fibre. The riper the stem of the plant becomes the less sugar and starch it contains. These are what we ought to retain—the sugar, starch, gum and oil; and by cutting the grass soon after it has attained its greatest height, a large quantity, as well as a better quality of hay, will be obtained.

All grass that has been partially wilted, should be placed in cock over night. I have just been spreading some that was left in winrow, and found that on the surface slightly *bleached*. Better cock it, if it takes until after sundown.

But the haymakers want me, so I close.

Truly yours, SIMON BROWN.

MESSRS. R. P. EATON & Co., Boston.

A LARGE DAIRY.

A gentleman by the name of Ross Winans owns 760 acres of land near Baltimore. He keeps cows for milk in city stables, and feeds them the year round on hay, with some bran or shorts, Indian corn, &c. The editor of the *Country Gentleman* who recently visited his establishment says, that he sold milk in one year, at 30 cents per gallon, to the amount of $37,630.71; cows and calves $11,986.08—almost fifty thousand dollars! He mows about 650 acres, filling forty-five barns, rated at forty tons each,—some eighteen hundred tons,—averaging over two and a half tons per acre! His city stables contain stalls for 220 cows, and he actually keeps 300 head of cattle and 30 horses. From a somewhat imperfect record, it is estimated that his cows make an average yearly yield of 2637 quarts of milk per cow. Sixteen cows which dropped their calves at intervals during January and February averaged over 16 quarts per day, up to March 13th. Such crops of hay are evidence of liberal manuring, and such yields of milk of good stock and of judicious management.

YANKEE PLOWS AND PLOWMEN.—The Paris correspondent of the *Rural New Yorker* compounds the following bitter pill for our "crack" plowmen and plowmakers, and advises them to swallow it like men, for it will do them a vast deal of good. After describing the trial of mowing machines on the Emperor's farm near St. Cloud, in which the Americans swept every thing clean, he alludes to the plowing match, in which the English had every thing their own way. He says:—

> We cannot compete with them either in plows, teams or plowmen—all necessary elements in a plowing match. This will be perfectly understood and acknowledged by all who have seen England and taken the least notice of plowing there, but will not be by those who have not. I do not contend that the time and force expended by the English plowman is any more remunerative than with us, but when you come to the doing of a nice job, such as is expected at a plowing match, we cannot come up to their ordinary work.

ROOT PRUNING OF PEAR TREES.—The following directions for summer root pruning, to induce fruitfulness, are given by the New York *Horticulturist*: "As soon as the terminal buds of this season's growth have formed or are forming, dig a trench around the tree, two thirds in circumference the diameter of the branches. Dig down deep, so deep that you can, by opening a trench toward the body of the tree, get in a position to cut the tap root off about eighteen inches under ground, then with a sharp knife trim each end of the roots

around the inner side of the trench, and again fill in the soil. Make sure that no strong lateral roots or duplicate tap roots are left uncut."

For the New England Farmer.

RAISING CORN IN CANADA.

This is rather a cold country for corn, and it is not expected that we can raise such large crops as can be raised further south or west. But I believe that Indian corn, properly cared for, can be made very remunerative even in this cold climate.

Take green sward and plow in the fall, the earlier the better. I have tried two ways of manuring. First, put on liberally of good barn yard manure before plowing; and, second, applying the manure after plowing. I do not know which is best for the corn; but the land will produce grass longer when manured after the first mentioned manner.

I never plow in the spring before planting; I had rather that the sod would lay and decompose under the corn, as I believe it helps its growth, but do not spare the harrow. When the land is in good tilth, furrow with a plow about three and one-half feet apart, into which manure is placed at suitable distances for the hills and immediately covered with a hoe, so as to keep the moisture from evaporating This manure for the hills is prepared in the following manner. My hog pen is so situated that I can throw all the manure from my horse barn and from the privy directly into the yard of the hog pen. Besides this, all the chamber slops are thrown upon this manure. In the fall, after killing the fat hogs, the manure is thrown out by the side of the yard. Early in April what is made during the winter by the store hogs, is thrown out on to the fall made, when the heap will immediately commence heating. In about three weeks begin at one side of this heap with fork and shovel, and turn it all over, mixing that made in the fall thoroughly with that made in the winter. From this compost heap, put about eight or ten cart loads, of thirty to thirty-five bushels to the load, to each acre. I have tried various kinds of manure, but find the above the best. I believe just as good as all hog manure.

If the manure is allowed to dry up after being put in the hill, the corn will not come up so readily. I put my seed corn into warm water the night before planting. In the morning, dry the corn so that it will not stick together by putting plaster or wood ashes to it. This causes the seed to come up much quicker than it would if planted dry, as it gives the germ a start.

I have planted corn on ground prepared as above for a good many years, and seldom fail of a good crop. In 1865 I had one and three fourths acres from which I gathered two hundred and fifty bushels of ears good sound corn. Not so large a crop as we frequently read of; but considering the climate and the distance north, I think it a good crop, at least remunerative, especially as I also raised about six bushels of beans among the corn, and a large quantity of pumpkins on the same land. Now the fodder when well harvested I believe will pay for harvesting the crop of corn. When the corn is pretty well advanced in ripening, or immediately after the first frost, or before a storm of rain, my method is to cut it all up close to the ground, and then set it up in stooks, tying a band of straw around the tops after bringing them together. This will keep the storms from hurting it. Let it stand two or three weeks, then pick the ears from the stalks and husk them immediately, or at your leisure, and bind up the stalks and house them in places where they will not hurt, and my word for it you will have as fine fodder as you can wish. It will make cows give as much milk as the best of English hay; at least, this is my experience. It always pains me to see corn fodder left in the field to waste, as many farmers leave it. I do not know as we ought to call such men farmers.

Some farmers are always complaining that they cannot keep the crows from pulling their corn after it comes up. I used to be troubled somewhat in that way; but for several years I have not had one stalk pulled up. I take cotton twine or woolen yarn, and run it clear round my piece, fixing it to stakes five or six feet from the ground. I have so much faith in the above remedy, that if farmers would do it before their corn is up, I should not be afraid to say that I would give them twenty-five cents for every spear the crows pull up. I think it an excellent plan to put, after the first hoeing, about one-half pint of unleached wood ashes among the spears of corn in each hill. Be sure to hoe so as not to let weeds have the supremacy, as they take the nourishment that should support the corn. HIRAM FRENCH.

Eaton, C. E., 1867.

For the New England Farmer.

NOTES ON THE CONNECTICUT VALLEY.---No. III.

The Old Orchards.

A feeling of sadness comes over me as I observe the unmistakable evidences on every hand of the decay of the old fruit orchards, and the absence of well directed efforts in planting and fostering new ones to supply their place. Within my recollection Hartford exported large quantities of apples and cider. Much of its cider found its way to a southern city where I resided. Now apples are not only required from other States to supply the cities, but many are required for the villages and farming communities.

Neglected and abused, as most orchards are, it is not surprising that trees do not flourish and that fruit fails. Trees require more care-

ful usuge now than when the country was comparatively new. They are more exposed to the force of winds, and ravages of insects at the present time than then. Few appear to regard these changes as being necessary to be taken into account when they plant out their fruit trees. They dig a hole and put them into it, and leave them to struggle for their existence under an accumulation of difficulties the most discouraging. They may manage to live for a few years, if the cattle or swine are not too severe, and then give up and die. Others are cared for after a fashion, until they have attained quite a good size, say a ten years' growth, then left to shirk for themselves. A week or two since I saw one of my neighbors trimming trees with a common chopping axe,—good thrifty trees, too, that with proper care might not only be made an ornament to his place but a source of profit.

Fruit has become so much a necessity in every family that prices are and will be remunerative. Your articles on the care of trees, published in the FARMER, are to me the most valuable of any that appear in the paper. What will New England homes be without orchards? To the boy that has been reared beneath their shelter and shade, and partaken of their fruit, how endeared is every tree. Some of them in particular are indelibly engraved on his affections. He longs to re-visit them, even when years of separation have intervened. If in this respect he should be gratified, how joyful the re-union! How grateful the reminiscences! How luscious the fruit! This is not all romance, but with many an one, a simple history, a living reality.

I must plead for the orchards that are still left us and urge the cultivation of new ones. They are a necessity for our well being. Our homes, if in the country, require them. They cannot, ought not, to be regarded as homes unless we have or mean to have an orchard of good fruit. Plant and wisely care for an orchard, and you are thrice blessed in the satisfaction you will find in it, and your children's children will arise to call you blessed. K. O.

East Windsor, Ct., 1867.

NEW JERSEY LANDS.

A correspondent of the *Country Gentleman* says that a gentleman of good business capacity and of large experience, recently visited one of the new settlements with a view to purchase, should he find the facilities for a home there equal to the representations of committees and others, who have advertised those lands. He reports a large and restless population, without much visible means of living, and the largest portion of them anxious to sell. The lands cost some $25 an acre for field, and several times that sum in the village. Every acre is covered with scrubs and bushes, subjecting the proprietor to as much as the original cost to clear and plow it. After this, the stumps must be grubbed or pulled, to furnish clear cultivation. The soil appears to be sandy loam, and, as there is no manure at hand—nothing to feed an animal of any kind—the cultivator first casts about him to ascertain where he shall find fertilizing matter for his crops. The principal reliance is on the marl deposits of other counties. Every acre costs the settler at least fifty dollars before he realizes a crop, and he must wait for grass to grow before he can keep a horse or cow. Until he can keep stock and manufacture manure, he must buy, so that for two years, at least, it is all outlay and no income.

LITTLE FALLS FARMERS' CLUB.

The farmers of this romantic valley have kept up semi-monthly meetings for some ten years past. Their discussions of topics relating to the farm and garden, particularly to dairying, which is a leading pursuit of the farmers of Herkimer County, have been ably reported by Mr. X. A. Willard and others, and probably no farmers' club in the country has sent out as much valuable, practical information as has this association. We find the following notice of the manner of conducting its discussions, which it will be seen is very simple, from an article in the *Utica Herald*, conducted by Mr. Willard:—

Near the close of every meeting, a subject is chosen for the next meeting, and some person or persons appointed to open the discussion. The opening speeches are made in the way most agreeable to the speakers. Either by written essays, or extemporaneously. After the opening speeches, members carry on the discussion in a conversational way—asking questions or giving their experience without any attempt at speech making. All that is sought to be obtained are the facts. Generally, members keep their seats, and talk in a familiar way, precisely as they would if meeting friends on the street or at their own homes. Under this system, it has been found that much more knowledge is obtained than would be obtained if speakers were required to rise and deliver their experience, &c., in a set speech, since many who are willing to talk and answer questions could not be prevailed upon to rise and make a speech.

☞ At a factory in Breslau, pine-tree wool is now spun and woven into a kind of flannel, which is largely used as blankets in hospitals, barracks and prisons, in that city and in Vienna with manifest advantage, for pine wood drives away all disagreeable and noxious insects from the localities in which it is used. It can be used as stuffing for chairs, sofas and mattresses in the same way as horse hair.

THE COMMON MILK WEED---Asclepias Cornuti.

A fine patch of this plant grew in the highway just below "our house" when we were boys. We remember of playing with its flowers, its freely-flowing milk, its abundant pods, and its downy seeds, which floated, balloon-like, in the air, as a breath of wind or a puff from the children's lungs sent them afloat—sowers going forth to sow seed. Having been told that nothing was made in vain, we used to wonder what all its milk and all its silk was good for. We believe that the latter was sometimes used as a substitute for feathers in beds, and that the children thought the milk would cure, or cause warts,—we have forgotten which. The books, however, say it is of little economical value.

Besides the name given above, the great botanist Linnæus called it *Asclepias Syriaca*, probably supposing it to be a Syrian plant; but Dr. Darlington says it is exclusively an American species. It is also called Silk-weed, on account of the beautiful silky hairs of the seeds, which bear the latter to a long distance, and thus sometimes scatter it over extensive districts. When this plant is wounded, it emits an abundance of thick, milky juice, resembling in both taste and color the juice of the common garden lettuce. Indeed, the milkweed is by some called *Wild Lettuce*, we suppose on account of the resemblance of the juices in the two plants.

The milkweed is not specially obnoxious to the farmer, and is not very difficult to exterminate, unless it has for a long time been allowed to occupy the ground, and get permanently established. It does not take root like the chickory, where it requires two men to pull up a single plant.

In the engraving, the small figure at the right represents a single flower, and that at the left, the seed-bearing pods reduced in size.

For the New England Farmer.

FARM LABORERS.

Change is characteristic of the times in which we live. No part or department of farming is exempt from its transforming influence. Some of these changes are hailed with delight, as evident progressions; but in the older Northern States, there has been a change in the character of its labor, which has received anything but a cordial assent. Formerly in New England farm help was composed exclusively of her native sons and daughters. Of late our native born young men and women have sought their homes and fortunes in the new States, or in other pursuits in their own States, until not only has the surplus been absorbed, but children leave their ancestral homes and their aged and dependent parents to be cared for, if cared for at all, by hirelings.

The rapid introduction of mechanical appliances, and new and improved methods of husbandry have increased the demand for active, intelligent and skilful labor. While the former supply has been thus cut off, another class of laborers has come from other sources. How well the latter meet the requirements of farmers need not be stated here. It is sufficient to say that the vexations and discouragements experienced with modern help have been the turning point in the sale of many a farm, and in other cases have caused operations to be contracted into the narrowest limit possible.

While some farmers are thus giving up in despair, and others waste time in regretting over the past, or in desponding over the present or future, it is well to inquire if the best mode of dealing with this new material has yet been adopted. It is evident that the system practicable with the former class is not in all respects advisable for the present class. So radical a change in the character of the laborer must be met with a corresponding change in the manner of dealing with him.

Under the present plan of boarding their hands, farmers are dependent upon the young and inexperienced, or on older men of thriftless or indifferent habits, who, having no particular attachments to any place, are fond of change, and float about for novelty and excitement, if they find no other pretext for leaving an employer. These are so unstable that it is difficult to make them fulfil a contract for a single season. The old apprentice system is an institution of the past, and there is no restraining this roving disposition of young help. Provided there was, by the time that young men become thoroughly useful they naturally desire to establish a home of their own. This cannot be done in their employer's kitchen. The only alternative for them is to leave him and go where they can.

Such a system has inherent defects, and is not adapted to the exigencies of the times. Something is needed that will induce the young men to remain a few years longer, and give a more permanent character to labor. That want will be supplied when pleasant and comfortable tenements, one or more according to the size of the farm, are provided for the workmen upon the farm. Then the services of married men can be secured; those having maturity of character and the requisite experience for profitable hands. Such men, having a family and home upon the farm, will naturally take a deeper interest in their employer's business; will be less inclined to rove about and quit a good place on the slightest variance. It is not enough to employ married men who have families miles away, or in a neighboring village within walking distance, and the men board at home. For with their families in one place and their work in another, their attention is likely to be divided, and often when most needed they are not to be found.

The families of these men will increase the supply of female help for the farm and neighborhood; both kinds of which are scarce in most rural districts. The wives of the laborers, if foreigners, will gladly accept of extra jobs at the farm-house; and those farmers who know so well how to turn the time of their own children to profit will see that these children will be cheap help for the busy seasons. Well trained lads are far more profitable upon many kinds of work than men of twice their strength. With plenty of such help at command there would be no excuse for weedy fields; and the cultivation of small fruits and of fruit generally, with root crops, &c., would be practicable where they are now considered unprofitable, with only heavy, clumsy men to do the work. The multiplication of machinery upon the farm favors the employment of young, light and active help. The great want of farmers is permanent cheap help to diminish the cost of production and increase the profits of the farm, and it is this occasional help which can be had at call for specified work which is cheapest and best. Is there any way of obtaining it except by a resident population?

The expense of this plan need deter none from adopting it. A few hundred dollars, at present prices, will erect tasteful and comfortable tenements of four or five rooms, which with a small garden and some trees can be made an attractive home—far better than most of the present class of hands ever enjoyed in their native lands or can command in crowded cities or manufacturing villages. Often a large portion of the materials and labor for construction can be furnished by the farm. Whatever the cost, a fair percentage could be deducted from wages for rent.

I am confident that farmers' wives and daughters will not object to a plan which at once relieves them of so much hard and disagreeable work. The complaints that are so often heard over their hard lot are not without foundation. Farmer's kitchens under present arrangements are noted places for unceasing toil. Young girls have an intuitive dread of them; and not a few older ones, when they have learned how comparatively easy people in cities and villages live, prefer to jog along solitary and alone, rather than assume the duties of a farmer's wife. The wives of no other class of men, with the same capital in their business, perform so much downright drudgery. Not long ago the apprentices and most of the help of mechanics and small traders lived in the families of their employers; but through changes in our social condition, that custom no longer exists, and surely farmer's wives have enough to do without keeping boarders, and may plead the same good reasons to be relieved of this heavy burden.

But some may say, we board our hands to maintain the strict economy which farming compels us to practice. To make keeping boarders profitable, is acknowledged by the experienced to be a difficult business. Without the closest

calculation, constant personal oversight and unremitting hard work there is no chance of success. Even with these qualifications, the profits depend upon the number of boarders—one, two or three are often more trouble and expense than profit. How can farmers talk of economy when the circumstances of their families are so often against taking boarders. The fact that they do board the hands often necessitates keeping help within the house, which by consumption and waste increases expenses beyond what most men are aware. Where this is done, if accurate accounts are kept and compared with those when the family are alone, boarding the hands may prove an expensive arrangement. But allow the situation of the farmer's family to be favorable to boarding the hands, all the profit that can arise must be from washing, mending and scrubbing for them; for, if the men boarded themselves, whatever of the farm produce they needed could be charged to them, and farmers would be in the same position as if they lived in town and bought everything. If our wives and daughters must always do this in order to swell the yearly income, it must be admitted farming is a poor business, and success depends fully as much upon the wife as the husband. Experience with both plans has demonstrated that the farmer's family can live cheaper and more happily by themselves, and the laborer cheaper and more contentedly with his own family. Such is human nature. The laborer will be perfectly satisfied at his own table with what would excite no little fault-finding and grumbling, if provided for him by his employer; and it accords with the spirit of the times that every man should sit at his own table and cut and spread his own bread and butter.

Another objection may be raised, that married men must necessarily receive higher wages than single men, and the question may also be asked what shall those of us do who employ help only two-thirds of the year? How is this among the trades? Is not the same rule that governs them applicable to farm hands? A shoemaker with a large family to support makes shoes at the same rate as a stripling, provided he has no superior skill, nor does a married carpenter or machinist receive higher wages than a single man on account of his family. Ability and experience regulate wages. Farmers must remember that in all occupations which can be pursued only during warm weather the highest wages are paid, for something must be laid by for idle days. Steady work and a permanent home are matters of prime importance to a married man, and are, in fact, a part of his wages.

Farmers who keep help only a part of the year are usually behind time; their work drives them, and they are always in a hurry; they cannot think of leaving home while the crops are growing and while employing help. After the hands are discharged in the fall, the daily routine confines them closely to the farm, and year after year passes without their leaving for more than a few hours at a time. Not unfrequently, too, the precious school time of their sons, limited to one short term, is infringed upon by winter work. Now the wages of a man for the whole year exceeds the wages of a man for eight or nine months only by a small sum, while the relief of a man kept the year round would bring to the proprietor by leaving him free to go and come at pleasure; the benefit to the children to have their school time without interruption, and the amount of work which could be done in early spring and late fall, to say nothing of what can be done in winter towards forward permanent improvements and in preparing for the busy season, repays the additional increase of wages.

The quality of farm laborers may be further improved by paying experienced hands more and inexperienced ones less. It is possible that with the shovel and hoe, both may do the same amount of work, but in feeding stock of twenty or thirty head, an ignorant hand may easily waste fifty cents worth of fodder per day, and his employer not know it at the time; and in driving a team, a hand that worries his horses or oxen, and is always meeting with accidents, is dear help at any price. Thus throughout the more important work of the farm, skilful help is cheapest; and yet how few are willing to make a difference of a few dollars per month between an experienced workman and a blundering, ignorant, green hand. The art of farming is not a simple thing that can be learned at sight or in one year; but like any mechanical trade it requires time. All the regulations, and gradations in wages made in the trades should be observed with farm laborers. It will stimulate them to qualify themselves as thorough workmen. But when a man of ten years' experience sees another of only a few months', receive nearly the same pay, where is the incentive to perfect himself in his work, or do any better than the second.

The idea so prevalent among farmers that they must be always in the field with their men to lead them off; to do all the important parts themselves; in fact, to work harder than any hired man, besides having all the care, and the moment one cannot do all this, he is obliged to sell, should be corrected. Such a state of affairs shows plainly that something is wrong in their system of dealing with help. The remedy proposed is the one which provides cheap and permanent help for the English farmer. In and around large towns men are readily found capable of taking charge of gardens, green-houses, stables and teams, and what is there on a farm that they need to dislike or cannot learn to do. It is plain, I think, that whenever farmers shall adopt measures, which will give to their employees the same relative advantages as are enjoyed by those around them, they will command as permanent,

cheap, faithful and competent help for their work as will be found in any occupation.

Lawrence, Mass., July, 1864. N. S. T.

THE SHEARED SHEEP.—You have been shearing. Do you intend to turn the meek and amiable animals, which have just been stripped 'stark-naked' for your benefit, adrift, to sleep on the *cold ground*, and take the storms as they come? You have had abundant evidence that sheep have thick coats these days, and when you shear them it is like wearing an over-coat, under-coat, shirt and wrapper, and stripping them all off and going naked.

You would expect to die if you did it, and you ought to; and that is about what those deserve who shear their sheep at their own convenience, and let them take the rains and the winds, and the frosts as they come. In this way, multitudes of sheep get coughs, consumptions and premature death, and are reported to die of grub in the head, &c. Don't be so greedy but what you can leave a good half-inch of wool on the sheep when you shear; you will get it all in the end; and, futhermore, shelter your sheep for at least three weeks after shearing, every rain and every night that is not particularly warm.—*Hugh T. Brooks, Wyoming Co., N. Y., at a Shearing Festival.*

PARIS TRIAL OF MOWING MACHINES.

The trial of Mowing Machines at Paris opened on Thursday, the 23d of May. The place chosen for the trial by the Imperial Commission was upon the farm of the Emperor, at Feuilleuse, situated about one and a half miles from St. Cloud, the site of the summer palace of the present Emperor. The field selected for this important work was one not calculated to please the contestants. The ground, though for the most part level enough, terminated with a gradual elevation at the farther end. It was "seeded down" last year to a mixture of Alfalfa or California clover, the common red clover, and a slight quantity of red top—the greater proportion of the first named. No real sward had been formed.

The surface was exceedingly rough, no roller having been used upon it, and there were large numbers of small, loose stones scattered over it. Besides, upon the rising ground "mole hills" were plenty, and, as every farmer knows, not to be avoided in using the mowing machine. The clovers were "crinkled" and interwoven, though of themselves, under ordinary circumstances, not difficult to cut. Add to this, that the ground had been soaked by almost constant rains for several days and that a severe wind, accompanied by a drifting rain, occurred during the trial, and the reader will understand that the test was not a light one.

The field had been staked off into lots of equal dimensions, each containing ¾ of a hectare or about 1.65 acres of parallelogram form, though some of them differing in length. The scythe had been used in dividing the lots from each other and forming a path for the first "through" of the machines. The assignment of lots was made by drawing numbers in the usual manner. In accordance with an order from the jury, the machines with teams attached, were arranged in front of the lots at half past eleven o'clock. The following is a list of the machines in competiton, in the order in which they stood:

No. 1—Kearsley Mower, made by H. & G. Kearsley, Ripon, England. 2 wheel; length of cut 4 feet.
No. 2—Peltier, Jr., Paris, France. 2 wheel; length of cut 3 feet 6 inches; one horse.
No. 3—Anglo-American, made by James Howard, Bedford, England. All iron; 2 wheel; length of cut 4 feet 6 inches.
No. 4—Made by A. C. Bamlitt, Yorkshire, England. 2 wheel; cut 4 feet 6 inches.
No. 5—Made by Samuelson, Banbury, England. Iron frame: 2 wheel; 4 feet cut.
No. 6—Wood Machine, made by Walter A. Wood, Hoosick Falls, N. Y. 2 wheel; cut 4 ft. 3 in.
No. 7—Made by Enler & Girand, Lyons, France. Cut 3 feet 6 inches.
No. 8—Lancashire Combined, made by Pixley & Sims, Lancashire, Eng. Cut 4 ft. 6 in.
No. 9—Clipper, made by Allen & Son, N. Y. One horse; (cut not ascertained.)
No. 10—Did not appear upon the field for some unknown reason.
No. 11—Machine Morgan, Seymour & Morgan Patent, made by Durand, Paris. Combined, used reel; cut not ascertained.
No. 12—Perry Mower, Ames Plow Company, Worcester, Mass., manufacturers. Cut 3 ft. 9 in. Exhibited by John G. Perry, the inventor.
No. 13—A Wood Machine, made in Paris. Cut 4 ft.
No. 14—McCormick, Chicago, Illinois. Cut 4 ft.
No. 15—Buckeye, Jr., made at Berwick-upon-Tweed, Scotland. Cut 4 ft.
No. 16—Wood Combined Machine, Hoosick Falls, N. Y.
No. 17—A French Machine, name and width of cut unascertained.
No. 18—Wood Machine from Canada West.
No. 19—Made by Noel, Paris. Iron frame; cut 4 feet 3 inches.

At 12 o'clock 20 minutes, the machines, from 1 to 7 inclusive, were ordered to start. It was also directed that but one man should accompany each machine, but this was not insisted upon, and the owner or agent was permitted to follow if he chose. When stopped from ordinary causes, such as clogging with grass, or foul sickle bar, the driver was allowed to proceed again as quickly as possible, but if stopped on account of breakage of any of the parts, no machine was allowed to proceed until ordered to do so by a juryman.

The contest, especially at the opening, was an exciting one, alike to owners, operators and spectators. Here were the chosen implements of the world for this class of work. It was nation against nation, and machine against machine, for the highest honor that could be awarded—the championship of the world. He who entered the list unprepared, or with an inferior implement, well knew that his chance was not worth the trouble of competing. The French machine No. 7, failed in the first rod and was taken from the field. One after another, Nos. 1, 2, and 4 came to a

halt. As yet No. 6 (the Wood) kept on its way, sending back its rapid, musical "click, click, click." Its team worked admirably; the driver—a Yankee boy just out of his "teens"—evidently knew his business to perfection. At last however, a mole hill on the last half of the first swath caused this also to stop, for cleaning. One after another the others toiled on, stopping sometimes from an ill broken team, clogging with the wet grass, (for a shower had set in,) or from the more serious obstructions met with in the mole hills. The Wood and Howard machines approached the farther end quite closely together, the former having stopped but once, finally coming out ahead, in eleven minutes from the time of starting. The Howard halted near the end, while the Wood proceeded on its return trip in good style, reaching "home" with two short stoppages and before any other had completed a swath. The round trip was made in 20 minutes. A second round was made in 14 minutes, with three slight halts. At this time the Howard was in its first return swath, and No. 4, the Bamlitt, had completed its first, with No. 2 nearly out and No. 5 about half way across. The Howard completed its first round trip in 43 minutes, at which time the Wood had accomplished four rounds, the third being made in 13 minutes, and the last in still less time. With the exception of the Wood and Howard it was very evident no satisfactory results could be expected from the machines in this division The others were floundering along at various distances, some on the first and others on their second swaths. Finally the Howard seemed to come to a "dead halt;" the Wood, occasionally making stops to clean its sickle bar, kept steadily on its way.

At 1 o'clock 15 minutes, the second division, consisting of machines from 8 to 14 inclusive, was ordered to advance, the jury leaving the first division to itself for the time. These machines moved toward the middle of the field with more uniformity than the first, yet several of them were soon seen to halt. Each stopped at the rough ground at the farther end; the Perry and McCormick however, being very soon upon the move. There was but a trifle of difference in the time at which these two machines completed the first swath. The Seymour & Morgan was next to them and the Allen (one horse) the fourth in the list. The Perry started first upon the home stretch. (It should here be stated that the lots on which the last three machines of this division were operated were about ¼ longer than those of the first division.) The McCormick passed the Perry in the return, completing its first round in 17 minutes. It started back, carrying the colors of its division. The Perry, very soon out, met with an accident in turning at the end. The horses attached to this machine were unused to the work, mettlesome and unsteady. The driver, excited, could not manage them well in the crowd that stood at the starting point. He failed to raise the cutter bar, and the dividing board or "track clearer" catching in a deep rut, was broken asunder at the point where attached to the bar. The breakage was without remedy, and the jurymen present at the time, allowed the machine to proceed upon its work as it best might. The inventor evidently feared it could not do its usual work, but ordered it on. It completed its second round in advance of all the others of its division—the two rounds occupying but 20 minutes. The last swath was cut the entire length without a stop, a feat accomplished by no other machine during the day. The McCormick, during this time, was working well, and the Seymour & Morgan evidently third in this division contest. The little Clipper kept on its way pretty well, but cut high, the knives evidently being raised for fear of breakage.

Turning our attention again to the first division, we find about the same relative work accomplished as at the time we left them, with the exception that the Howard, meeting with frequent obstructions it had not the power to overcome, had fallen farther behind the Wood. We see also that the latter is about completing its lot, and is a great centre of attraction. At precisely 1 o'clock 54 minutes, the last clip was taken, and your humble correspondent involuntarily grasped the operator by the hand and shouted for America.

At this juncture all the other machines of this division were ordered from the field, the committee seemingly satisfied with what they had seen. The wind and rain now became more severe, and the Perry mower, unable to clear its break, failed to operate satisfactorily and was withdrawn by its owner upon being assured that a new trial, with a new machine, was granted him the next day, the jury very justly considering the breaking no fault of the invention. The McCormick kept well up to its work, making quite satisfactory progress. The others of the second division were working rather indifferently.

At two o'clock seventeen minutes, the 3d division—the balance of the machines—was ordered to work. Owing to the storm, or some other cause best known to the jury, they were kept at work but a very few minutes—none of them showing execution superior to that already done, and the best of them being of the same manufacture as already tried. With these, all but the McCormick were ordered to stop work. The last mentioned kept on, finishing its lot at 3 o'clock 50 minutes, being 2 hours and 35 minutes at work.

Thus ended the first day's trial of mowers at the Grand Exhibition, with America as the champion among nations, and the Wood, McCormick and Perry, at the head of the American machines here represented.

Further trial was postponed till the trial of reapers, some time in July.

Since writing the above I have information that the jury has concluded to throw out all but eight of the machines in the further tests that are to take place. The following are the names of the machines, placed in the order of performance at this stage of the contest:

No. 1.—The Wood Machine.
No. 2.—The McCormick Machine.
No. 3.—The Perry Machine.
No. 4.—The Howard Machine.
No. 5 ——.
No. 6.—The Kearsley.
No. 7.—The Peltier.
No. 8.—The Buckeye, Jr.

Now as it is not at all likely that more than three prominent medals, say one gold medal and two silver ones, will be awarded, it is easy to say that the three highest prizes, judging by the present position of affairs, must go to American machines.—*Prairie Farmer.*

REMARKS.—Since the above was written, the premiums have been announced, and were published in the FARMER of July 6th.

MARKETING WOOL.

One of the leading farmers of Illinois, who appears occasionally in the *Prairie Farmer* as "Wool Grower," regards the present as one of the dark times for wool growers in that section. He says that all other branches of farming are paying better than this. He charges the wool commission houses of Chicago with operating against the interests of the grower and in favor of the manufacturer. Though written especially for farmers at the West, the following paragraphs may be read with interest by wool growers of other sections:—

I say to wool growers, sell your own wool at your own barn if possible. Sell to a local dealer for three or four cents less than you think it worth, rather than get it stranded in a wool house. The best time to sell wool, nine times out of ten, is when the tide is up at shearing time. It scarcely ever lasts over a week or two, and if you let the opportunity slip you are compelled to ship, and then to commence that weary waiting which makes the heart sick. After the first tide ebbs it is usually from four to six months before you can get even a nibble for wool, and then when you do effect a sale, by the time you deduct freight and commission, and insurance, and storage, and drayage, and sale tax, and re-sackage, and stealage, and one-third off, and half off, and in some cases, *all* off, you will find that you might have sold at home for from six to fifteen cents per pound more money.

The one great drawback to wool-growing in the United States is not dogs nor scab nor foot-rot, but the manner of marketing. There is no other staple agricultural product grown in our country, the purchasers of which are so few in number, and hence, able to make such soul-eating combinations to affect prices, as wool. The manufacturers and their organs never let up during the entire circle of the year, from "bearing" the wool market. The buyers of grain are not always "bears," but there is always an equally smart lot of "bulls," which helps to keep grain somewhere near an equilibrium; but the purchasers of wool are always, and everywhere, "bears."

A FINE FIELD OF RYE.—A correspondent informs us that he recently visited a field of four acres of rye in Tower Hill neighborhood, Lawrence, Mass., that he thinks deserves honorable mention. It is on the farm of Richard H. Kent. Four years ago the field was cleared of a growth of pine, the land plowed and set to apple trees. It has since been planted to potatoes, corn, &c., and well manured. The present crop of rye attracts considerable attention from its heavy and even growth,—some of the stalks being seven feet high by actual measurement. Mr. Kent has promised to furnish a fuller account of the crop after harvesting.

EXPERIENCE IN BEE-KEEPING.

Seven years ago this spring, I commenced bee-keeping, hardly knowing a honey-bee from a humble-bee; but I procured the best works on bees, such as Langstroth's, Quinby's, Kidder's, &c., and studied the theory of scientific bee-keeping, which I immediately commenced to put in practice, going very carefully at first, and as the result, my bees have averaged over $5.00 per swarm, yearly, in surplus honey, besides the increase; and we have had two or three very poor seasons for honey in the time —1865 was the poorest we have had in thirty years—so old bee-keepers tell me.

Last year, (1866,) I commenced the season with twenty-three swarms in poor condition; most of them had to be fed as soon as set out, to save them from starvation; but the month of April was very pleasant, and as soon as the soft maple was in bloom, the bees got their living, and some of my best swarms stored eight or ten pounds ahead.

In the month of June I bought one of Langstroth's Italian queens, and as fast as I could raise queens I divided my bees and furnished the queenless part with an Italian queen. After dividing I raised more queens, to take the place of the black queens.

I closed the season with fifty-four swarms, (mostly Italian,) and 544 pounds surplus honey.

I put my bees into the cellar Dec. 4th, and took them out April 10th, 1867, and found them *all* in good condition. I fed a few of the lightest swarms by changing frames

with those that had a surplus. Bees are storing honey from the soft maple now, but not as much as they did last year. The honey crop of 1866 was better (in our county) than for several seasons previous.

I intend to raise another set of queens, to take the place of those that paired with the black drones last season. I shall not let any black drones fly in my apiary this season. I make my hives double, with a dead air space all around the swarm, thereby securing a more uniform temperature, both summer and winter. I think a double hive much the best for our changeable climate, and they cost but a trifle more.—*George T. Wheeler, in Country Gentleman.*

Ladies' Department.

From "May-day and other Pieces," by R. W. Emerson.

BIRDS AND FLOWERS.

Ah! well I mind the calendar,
Faithful through a thousand years,
Of the painted race of flowers,
Exact to days, exact to hours,
Counted on the spacious dial
Yon broidered zodiac girds,
I know the pretty almanac
Of the punctual coming back,
On their due days, of the birds,
I marked them yestermorn,
A flock of finches darting
Beneath the crystal arch,
Piping, as they flew, a march,—
Last year, from yon oak or larch;
Dusky sparrows in a crowd,
Diving, darting northward free,
Suddenly betook them all,
Every one to his hole in the wall,
Or to his niche in the apple tree.
I greet with joy the choral trains
Fresh from palms and Cuba's canes,
Best gems of Nature's cabinet.
With dews of tropic morning wet,
Beloved of children, bards, and Spring,
O birds, your perfect virtues bring,
Your song, your forms, your rhythmic flight,
Your manners for the heart's delight,
Nestle in hedge, or barn, or roof,
Here weave your chamber waterproof,
Forgive our harms, and condescend
To man, as to a lubber friend,
And, generous, teach his awkward race,
Courage, and probity, and grace!

HOUSEHOLD ECONOMY.

CONTRIBUTED FOR THE NEW ENGLAND FARMER.

Unleavened Bread.

I have long been proposing to send you my way of making unleavened bread, as I think it much superior in point of health to any other kind.

For Brown Bread take two parts of Indian meal to one of rye or Graham. Scald the Indian, then add the other with cold water sufficient to moisten it enough so that it can be thoroughly mixed. Salt and molasses can be added if desired, but it is good and more healthful without. This kind of brown bread is wholesome, when warm from the oven. It may be made in loaves three or four inches thick, and should stand upon the back part of the stove, or where the bottom will receive a scalding heat for an hour before being placed in a hot oven, when, if thoroughly baked, it will be light and sweet.

The crust is harder than that of raised bread, but it makes a palatable dish by itself, if taken off and soaked in milk, allowing it to come to a quick boil before taking up; or it makes a good pudding for a plain farmer's dinner, if steeped in apple-sauce, and eaten with butter and sugar, maple syrup, or sweet cream; or if one prefers a made sauce, a nice one can be had by combining nice sour cream with molasses, (maple is best), or if sweet cream is used, a spoonful or two of vinegar or cider, or a little tart jelly dissolved in it improves it, and a little nutmeg can be added; or a plainer sauce can be made by taking a pint of milk, saving out enough to moisten two spoonfuls of flour, boil and thicken, and add an egg beaten with three spoonfuls of white sugar after it is taken from the fire, so that it will not harden the egg. One of the most palatable of Indian breads can be made by substituting flour for the rye meal, and there is no end to the variety of ways in which healthful, palatable, unleavened cakes can be made, either by using muffin rings, roll or patty pans, (the French roll pans are much the least trouble,) or by making them in drop cakes, or forming them into little cakes in the hand, covering them with flour; and a little time devoted to experimenting with them, I do not deem misspent.

I will give you one receipt for

Pop-Corn Pudding,

which I think very good.

Take of corn well popped, and rolled, pounded, or ground, one heaping teacupful; one quart of milk, one egg, nearly a cupful of sugar, a little salt and spice to taste. Soak the corn in the milk over night, add the other ingredients and bake two hours.

Apple Pie.

Take one egg and half a cracker, or if the plate is large, a little more, to a pie, and about two good sized, sour apples, which may be grated raw, or stewed and strained, with a little nutmeg and salt. Use but very little more sugar than for common custard pies, preparing with milk, like them.

I desire in receipts a variety of plain dishes, easily prepared, and thinking that others may appreciate the same, have tried to contribute my mite; but I fear it may not be very acceptably written, from confusion produced by the interruptions of my little ones, as their care, with that of my household, gives me little uninterrupted time.

East Princeton, Mass., 1867. NELLIE.

Union Cake.

One cup of butter, two of sugar, three of flour, one of milk, one-half cup of corn starch, four eggs, two teaspoonfuls extract of lemon, one of cream tartar, one-half teaspoonful of soda.

Hard Gingerbread.

One and one-half cups of white sugar, one-half cup of butter, one-half cup of sweet milk, one-half teaspoon soda, one of cream tartar, one egg, ginger to suit the taste, or nutmeg and cinnamon. Knead in flour enough to make a very hard dough, and roll out to the thickness of pie-crust.

Pudding.

Two cups of flour, one of chopped suet, one of raisins, or any other dried fruit, one egg, two tablespoonfuls of molasses, one teaspoonful of soda, one cup of new milk, spice to suit the taste, steam one and one-half hours. Eat with liquid sauce.

Imitation Corn Starch Pudding.

One quart of milk, and a little salt. Thicken one-third of the milk to quite a thick, smooth paste, with flour; add two eggs well beaten, and stir into the remainder of the milk, when it boils. To be eaten cold with cream and white sugar.

Dudley, Mass., 1867. A FARMER'S WIFE.

MR. EDITOR:—As I feel quite interested in reading the receipts, and have tried some which appear in your paper from time to time, I thought I would send a few which *certainly* belong to "Household Economy," but I consider them good enough for use sometimes.

Brown Bread.

Among the receipts for brown bread, I find none which suits me any better than mine. I do not think sweetening improves the bread enough to pay for the molasses used.

I prefer mixing at night. For two loaves, I take five pints of Indian meal, nearly the same of rye, full two-thirds of a cup of yeast (I like "Ruby's" way of making yeast very much;) mix with warm water. In summer I use cool water. In the extreme hot weather of last summer I took cold water. When I do not mix at night, I scald the Indian meal, and use warm water.

Indian Griddle Cakes.

Two cups of sweet milk, the same of sour, one teaspoonful of soda, salt; one-third flour, two-thirds Indian meal; mixing a little thicker than when all flour is used. The flour sifted from the meal will make them better, if any one has a fine sieve.

Molasses Cake.

Two cups of buttermilk, one cup of molasses, one teaspoonful of soda, a little salt, flour enough to make a batter not so thick but it will run. I sometimes vary this with ginger or caraway seed.

Pepperell, Mass., 1867. HANNAH.

ABOUT CURRANTS.

Currants Preserved.

Take ripe currants free from stems; weigh them, and take the same weight of sugar; put a teacup of sugar to each pound of it; boil the syrup until it is hot and clear; then turn it over the fruit; let it remain one night; then set it over the fire, and boil gently until they are cooked and clear; take them into the jars or pots with a skimmer; boil the syrup until rich and thick, then pour it over the fruit. Currants may be preserved with ten pounds of fruit to seven of sugar. Take the stems from seven pounds of the currants. and crush and press the juice from the remaining three pounds; put them into the hot syrup, and boil until thick and rich; put it in pots or jars, and the next day secure as directed.

Currant Jelly.

Pick fine, red, but long-ripe currants from the stems; bruise them and strain the juice from a quart at a time through a thin muslin; wring it gently to get all the liquid; put a pound of white sugar to each pound of juice; stir it until it is all dissolved; set it over a gentle fire; let it become hot, and boil for fifteen minutes; then try it by taking a spoonful into a saucer; when cold, if it is not quite firm enough, boil it for a few minutes longer.

Jelly.---Another Receipt.

Put your currants in a bell-metal kettle and scald them well; when cool press them through a sieve, getting out all the juice, (be careful not to allow any skin or seeds to pass through the sieve,) measure the juice and put it back again into the kettle and let it boil hard for five or six minutes, skimming it well; then add while on the fire boiling one pound of sifted loaf sugar to every pint of juice; stir it till dissolved, which it will be in a few minutes; it *ought not to boil* after the sugar is in, all that is necessary is to have it well dissolved, and then it is done and ready to put in the tumblers. It tastes much more of the fruit, and is a beautiful light color. Will keep for years if necessary.

Currant Jam of all Colors.

Strip your currants and put them into your pan, with three-quarters of a pound of sugar to a pound of fruit; add your sugar after your fruit has boiled a few minutes; boil all together, mashing your fruit with a wooden spoon; boil all gently for half an hour, then fill your jars.

Currant Wine.

Dissolve eight pounds of honey in fifteen gallons of boiling water, to which, when clarified, add the juice of eight pounds of red or white currants; then ferment for twenty-four hours; to every two gallons add two pounds of sugar, and clarify with whites of eggs.

Black Currant Vinegar.

To four pounds of fruit, very ripe, put three pints of vinegar; let it stand three days; stir occasionally; squeeze and strain the fruit. After boiling ten minutes, to every pint of juice add one pound of lump sugar. Boil twenty minutes.

Currant and Gooseberry Compote.

Put one quart of red currant juice to five pounds of loaf sugar; set it on the fire, and

when the sugar is dissolved put in eight pounds of red, rough, ripe gooseberries, let them boil half an hour, then put them into an earthen pan and leave them to stand for two days; then boil them again until they look clear; put them into pots and let them stand a week to dry a little at the top, then cover them with brandy papers.—*Germantown Telegraph.*

A BEAUTIFUL TRIBUTE TO A WIFE.

I was guided in my choice only by the blind affections of my youth. I found an intelligent companion and a tender friend, a prudent monitress, the most faithful of wives, and a mother as tender as children ever had the misfortune to lose. I met a woman who, by tender management of my weaknesses, gradually corrected the most pernicious of them. She became prudent from affection; and though of the most generous nature, she was taught frugality and economy by her love for me. During the most critical period of my life, she relieved me. She gently reclaimed me from dissipation; propped my weak and irresolute nature; she urged my indolence to all the exertions that have been useful and creditable to me, and she was perfectly at hand to admonish my heedlessness or improvidence. To her I owe whatever I am; to her whatever I shall be. In her solicitude for my interest she never for a moment forgot my feelings or character. Even in her occasional resentment, for which I but too often gave her cause (would to God I could recall those moments!) she had no sullenness or acrimony. Her feelings were warm, nay, impetuous; but she was placable, tender and constant. Such was she whom I have lost, when her excellent natural sense was rapidly improving, after eight years struggle and distress had bound us fast together, and moulded our tempers to each other; when a knowledge of her worth had refined my youthful love into friendship, and before age had deprived it of much of its original ardor. I lost her, alas! the choice of my youth, the partner of my misfortunes, at a moment when I had the prospect of her sharing my better days.—*Sir. James McIntosh.*

To Preserve Raspberries for Creams or Ices Without Boiling.—Let the fruit be gathered in the middle of a warm day, in very dry weather; strip it from the stalks directly, weigh it, turn it into a bowl or deep pan, and bruise it gently; mix with an equal weight of fine, dry, sifted sugar, and put it immediately into small, wide-necked bottles; cork these firmly without delay, and tie bladders over the tops. Keep them in a cool place, or the fruit will ferment. The mixture should be stirred softly, and only just sufficiently to blend the sugar and the fruit. The bottles must be perfectly dry, and the bladders, after having been cleaned in the usual way, and allowed to become nearly dry, should be moistened with a little spirit on the side which is to be next the cork.